Color Printer

d-Copia 600, d-Copia 800

SERVICE MANUAL

Code Y104350-7

PUBLICATION ISSUED BY:

Olivetti S.p.A.
77, Via Jervis - 10015 Ivrea (TO)
Italy

Copyright © 2006, Olivetti
All rights reserved

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

CAUTION

Double-pole/neutral fusing.

This page is intentionally left blank.

Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

⚠**DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle (△) symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.

General warning.

Warning of risk of electric shock.

Warning of high temperature.

⃠ indicates a prohibited action. The specific prohibition is shown inside the symbol.

General prohibited action.

Disassembly prohibited.

● indicates that action is required. The specific action required is shown inside the symbol.

General action required.

Remove the power plug from the wall outlet.

Always ground the copier.

1.Installation Precautions

⚠WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .....

- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .....

⚠CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .....

- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .....

- Do not install the copier near a radiator, heater, other heat source or near flammable material.

  This may cause fire. .....

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .....

- Always handle the machine by the correct locations when moving it. .....

- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .....

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .....

- Advice customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .....

2.Precautions for Maintenance

⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. .....

- Always follow the procedures for maintenance described in the service manual and other related brochures. .....

- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. .....

- Always use parts having the correct specifications. .....
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. .....

- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. .....

- Always check that the copier is correctly connected to an outlet with a ground connection. .....
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. .....

- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. .....

- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. .....

⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. .....

- Use utmost caution when working on a powered machine. Keep away from chains and belts. .....

- Handle the fixing section with care to avoid burns as it can be extremely hot. .....
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. .....

- Do not remove the ozone filter, if any, from the copier except for routine replacement. .....

- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. .....

- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. .....

- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. .....

- Remove toner completely from electronic components. .....

- Run wire harnesses carefully so that wires will not be trapped or damaged. .....

- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. .....

- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. .....

- Handle greases and solvents with care by following the instructions below: .....
  · Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
  · Ventilate the room well while using grease or solvents.
  · Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on.
  · Always wash hands afterwards.

- Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. .....

- Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. .....

3.Miscellaneous

⚠WARNING

- Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. .....

CONTENTS

1-1 Specifications
1-1-1 Specifications 1-1-1
1-1-2 Parts names 1-1-3
(1) Copier 1-1-3
(2) Operation panel 1-1-5
1-1-3 Cross section view 1-1-6
1-1-4 Drive system 1-1-7
(1) Drive system 1 (Optical section) 1-1-7
(2) Drive system 2 (Cassette paper feed) 1-1-8
(3) Drive system 3 (Deck paper feed) 1-1-9
(4) Drive system 4 (Deck lift) 1-1-9
(5) Drive system 5 (Vertical paper feed) 1-1-10
(6) Drive system 6 (MP tray paper feed) 1-1-11
(7) Drive system 7 (Paper conveying) 1-1-12
(8) Drive system 8 (Drive motor and developing motor drive trains) 1-1-13
(9) Drive system 9 (Transfer motor, fuser motor drive train) 1-1-14
(10) Drive system 10 (Toner motor drive train) 1-1-16
(11) Drive system 11 (Document processor) 1-1-17

1-2 Handling Precautions
1-2-1 Drum 1-2-1
1-2-2 Toner container 1-2-1
1-2-3 Installation environment 1-2-1

1-3 Installation
1-3-1 Unpacking and installation 1-3-1
(1) Installation procedure 1-3-1
1-3-2 Setting initial copy modes 1-3-12
1-3-3 Installing the key counter (option) 1-3-13
1-3-4 Installing the document finisher (option) 1-3-15
1-3-5 Installing the side feeder (option) 1-3-24
1-3-6 Installing the printer kit (option) 1-3-28
1-3-7 Installing the scanner kit (option) 1-3-31
1-3-8 Installing the security kit (option) 1-3-33

1-4 Maintenance Mode
1-4-1 Maintenance mode 1-4-1
(1) Executing a maintenance item 1-4-1
(2) Maintenance mode item list 1-4-2
(3) Contents of the maintenance mode items 1-4-7
1-4-1 Copier management 1-4-76
(1) Using the copier management mode 1-4-76
(2) Job accounting 1-4-77
(3) Default settings for copying 1-4-78
(4) Common default settings 1-4-80
(5) Weekly timer 1-4-82
(6) Configuring MP tray 1-4-82
(7) Registering non-standard sizes for originals 1-4-83
(8) Setting document management defaults 1-4-83
(9) Hard disk management 1-4-83
(10) Printing reports 1-4-83
(11) Checking total copy count 1-4-84
(12) Refreshing the drum 1-4-84
(13) Selecting the language 1-4-84

1-5 Troubleshooting
1-5-1 Paper misfeed detection 1-5-1
(1) Paper misfeed indication 1-5-1

(2) Paper misfeed detection conditions 1-5-2
(3) Paper misfeeds 1-5-10
1-5-2 Self-diagnosis 1-5-24
(1) Self-diagnostic function 1-5-24
(2) Self diagnostic codes 1-5-26
1-5-3 Image formation problems 1-5-46
(1) No image appears (entirely white)....1-5-48
(2) No image appears (entirely black)....1-5-49
(3) Image is too light. 1-5-50
(4) Background is visible....1-5-51
(5) A white line appears longitudinally. 1-5-51
(6) A black line appears longitudinally. 1-5-51
(7) A black line appears laterally....1-5-52
(8) One side of the copy image is darker than the other....1-5-52
(9) Black dots appear on the image. 1-5-52
(10) Image is blurred....1-5-53
(11) The leading edge of the image is consistently misaligned with the original. 1-5-53
(12) The leading edge of the image is sporadically misaligned with the original. 1-5-53
(13) Paper creases. 1-5-54
(14) Offset occurs. 1-5-54
(15) Image is partly missing. 1-5-54
(16) Fusing is poor. 1-5-55
(17) Image is out of focus. 1-5-55
(18) Image center does not align with the original center. 1-5-55
(19) Image is not square. 1-5-56
(20) There is a regular error between the centers of the original and copy image when the DP is used. 1-5-56
(21) There is a regular error between the leading edges of the original and copy image when the DP is used. 1-5-56
1-5-4 Electric problems 1-5-57
Copier
(1) The machine does not operate when the main power switch is turned on. 1-5-57
(2) The developing motor does not operate (C2100). 1-5-57
(3) The drive motor does not operate (C2200). 1-5-57
(4) The fuser motor does not operate (C2300). 1-5-57
(5) The transfer motor does not operate (C2550). 1-5-58
(6) Paper feed motor 1 does not operate. 1-5-58
(7) Paper feed motor 2 does not operate. 1-5-58
(8) Paper feed motor 3 does not operate. 1-5-58
(9) Paper feed motor 4 does not operate. 1-5-59
(10) The feed motor does not operate. 1-5-59
(11) The MP feed motor does not operate. 1-5-59
(12) The vertical feed motor does not operate. 1-5-59
(13) The registration motor does not operate. 1-5-60
(14) The toner motor does not operate. 1-5-60
(15) The cleaning motor does not operate. 1-5-60
(16) The PTC cleaning motor does not operate. 1-5-60
(17) The polygon motor does not operate. 1-5-60
(18) Lift motor 1 does not operate. 1-5-60
(19) Lift motor 2 does not operate. 1-5-60
(20) Lift motor 3 does not operate. 1-5-60
(21) Lift motor 4 does not operate. 1-5-60
(22) The scanner motor does not operate. 1-5-60
(23) The duplex side registration motor does not operate. 1-5-61
(24) The duplex feed motor does not operate. 1-5-61
(25) The duplex switchback motor does not operate. 1-5-61
(26) Cooling fan motor 1 or 2 does not operate. 1-5-61
(27) Cooling fan motor 3 does not operate. 1-5-62
(28) Cooling fan motor 4 does not operate. 1-5-62
(29) The scanner fan motor does not operate. 1-5-62
(30) The lamp fan motor does not operate. 1-5-62
(31) The LSU fan motor does not operate. 1-5-62
(32) Developing fan motor 1 or 2 does not operate. 1-5-62

(33) The image formation fan motor does not operate. 1-5-63
(34) The developing duct fan motor does not operate. 1-5-63
(35) PWB fan motor 1 or 2 does not operate. 1-5-63
(36) The power source fan motor does not operate. 1-5-63
(37) The feedshift fan motor does not operate. 1-5-64
(38) The duplex fan motor does not operate. 1-5-64
(39) The shield box fan motor does not operate. 1-5-64
(40) The MP solenoid does not operate. 1-5-64
(41) The feedshift solenoid does not operate. 1-5-64
(42) The fuser web solenoid does not operate. 1-5-64
(43) The duplex feedshift solenoid does not operate 1-5-65
(44) The duplex switchback solenoid does not operate 1-5-65
(45) The cleaning lamp does not turn on. 1-5-65
(46) The exposure lamp does not turn on 1-5-65
(47) The exposure lamp does not turn off 1-5-65
(48) The fuser heater lamp M, S or L does not turn on 1-5-65
(49) The fuser heater lamp M, S or L does not turn off 1-5-65
(50) No main charging. 1-5-65
(51) No developing bias is output. 1-5-66
(52) No transfer bias is output. 1-5-66
(53) The original size is not detected. 1-5-66
(54) The original size is not detected correctly. 1-5-66
(55) The touch panel keys do not work 1-5-66
(56) The message requesting paper to be loaded is shown when paper is present in cassette 1. 1-5-66
(57) The message requesting paper to be loaded is shown when paper is present in cassette 2. 1-5-66
(58) The message requesting paper to be loaded is shown when paper is present in cassette 3. 1-5-66
(59) The message requesting paper to be loaded is shown when paper is present in cassette 4. 1-5-66
(60) The message requesting paper to be loaded is shown when paper is present on the MP tray. 1-5-67
(61) The size of paper in cassette 3 is not displayed correctly. 1-5-67
(62) The size of paper in cassette 4 is not displayed correctly. 1-5-67
(63) The size of paper on the MP tray is not displayed correctly. 1-5-67
(64) A paper jam in the paper feed, paper conveying or fuser section is indicated when the main power switch is turned on. 1-5-68
(65) The message requesting cover to be closed is displayed when the front cover is closed. 1-5-68
(66) Others 1-5-68
DP
(1) The original feed motor does not operate. 1-5-69
(2) The original conveying motor does not operate. 1-5-69
(3) The original registration motor does not operate 1-5-69
(4) The DP lift motor does not operate. 1-5-69
(5) The DP fan motor does not operate. 1-5-69
(6) The CIS does not turn on. 1-5-70
(7) The CIS does not turn off. 1-5-70
(8) A message indication cover open is displayed when the DP is closed correctly. 1-5-70
(9) The size of original is not displayed correctly. 1-5-70
(10) An original jams when the main power switch is turned on. 1-5-71
1-5-5 Mechanical problems 1-5-72
Copier
(1) No primary paper feed. 1-5-72
(2) No secondary paper feed. 1-5-72
(3) Skewed paper feed. 1-5-72
(4) The scanner does not travel. 1-5-72
(5) Multiple sheets of paper are fed at one time. 1-5-72
(6) Paper jams. 1-5-72
(7) Toner drops on the paper conveying path 1-5-72
(8) Abnormal noise is heard 1-5-73
DP
(1) No primary original feed. 1-5-74
(2) No secondary paper feed. 1-5-74
(3) Originals jam. 1-5-74

1-6 Assembly and Disassembly

1-6-1 Precautions for assembly and disassembly 1-6-1
(1) Precautions 1-6-1
(2) Running a maintenance item 1-6-2
1-6-2 Paper feed section 1-6-3
(1) Detaching and refitting the paper feed pulley, forwarding pulley and separation pulley of cassette 1 and 2 1-6-3
(2) Detaching and refitting the paper feed pulley, forwarding pulley and separation pulley of cassette 3 and 4 1-6-10
(3) Pressure adjustment of separation pulley 1-6-14
(4) Adjusting the center line for cassette 1 or 2 1-6-15
(5) Detaching and refitting the MP unit 1-6-17
(6) Detaching and refitting the MP paper feed pulley, MP forwarding pulley and MP separation pulley 1-6-19
(7) Pressure adjustment of MP separation pulley 1-6-24
(8) Adjustment after roller and motor replacement 1-6-25
(8-1) Adjusting the leading edge registration of image printing 1-6-25
(8-2) Adjusting the leading edge registration for duplex switchback copying 1-6-26
(8-3) Adjusting the center line of image printing 1-6-27
(8-4) Adjusting the margins for printing 1-6-28
(8-5) Adjusting the amount of slack in the paper 1-6-29
(8-6) Adjusting the amount of slack in the paper at the vertical conveying 1-6-30
1-6-3 Main charging section 1-6-31
(1) Detaching and refitting the main charger unit 1-6-31
(2) Detaching and refitting the main charger grid 1-6-32
(3) Detaching the main charger wire cleaning pad 1-6-32
(4) Detaching and refitting the main charger wire 1-6-33
1-6-4 Optical section 1-6-34
(1) Detaching and refitting the exposure lamp 1-6-34
(2) Detaching and refitting the scanner wires 1-6-37
(2-1) Detaching the scanner wires 1-6-37
(2-2) Fitting the scanner wires 1-6-39
(3) Detaching the laser scanner unit 1-6-42
(4) Detaching and refitting the ISU (reference) 1-6-46
(5) Adjusting the longitudinal squareness (reference) 1-6-48
(6) Adjusting scanner image lateral squareness (reference) 1-6-49
(6-1) Adjusting the position of the laser scanner unit 1-6-49
(6-2) Adjusting the position of the ISU 1-6-50
(7) Adjusting magnification of the scanner in the main scanning direction 1-6-51
(8) Adjusting magnification of the scanner in the auxiliary scanning direction 1-6-52
(9) Adjusting the scanner center line 1-6-53
(10) Adjusting the scanner leading edge registration 1-6-54
(11) Adjusting the margins for scanning an original on the contact glass 1-6-55
1-6-5 Drum section 1-6-56
(1) Detaching and refitting the drum 1-6-56
(2) Detaching and refitting the drum heater 1-6-57
(3) Detaching and refitting the drum heater electrode 1-6-59
1-6-6 Developing section 1-6-60
(1) Detaching and refitting the developing unit 1-6-60
1-6-7 Transfer section 1-6-61
(1) Detaching and refitting the transfer unit 1-6-61
(2) Detaching and refitting the transfer belt 1-6-63
(3) Detaching and refitting the transfer roller 1-6-65
1-6-8 Cleaning section 1-6-66
(1) Detaching and refitting the cleaning unit 1-6-66
(2) Detaching and refitting the cleaning blade 1-6-67
1-6-9 Charge erasing section 1-6-68
(1) Detaching and refitting the PTC unit 1-6-68
(2) Detaching and refitting the PTC cleaning pad 1-6-68
(3) Detaching and refitting the PTC wire 1-6-69
1-6-10 Fuser section 1-6-70
(1) Detaching and refitting the fuser unit 1-6-70
(2) Detaching and refitting the lower cleaning roller 1-6-71

(3) Detaching and refitting the press roller....1-6-72
(4) Detaching and refitting the cleaning felt....1-6-73
(5) Detaching and refitting the fuser thermostat....1-6-75
(6) Detaching and refitting the fuser thermistor....1-6-75
(7) Detaching and refitting the fuser heater M, S and L....1-6-76
(8) Detaching and refitting the heat roller....1-6-79
(9) Detaching and refitting the heat roller separation claws....1-6-80
(10) Detaching and refitting the fuser eject upper roller....1-6-81
1-6-11 Document processor (DP) section....1-6-82
(1) Detaching and refitting DP....1-6-82
(2) Detaching and refitting the DP original feed belt, DP forwarding pulley and DP separation roller....1-6-83
(3) Detaching and refitting CIS....1-6-87
(4) Adjusting the tension of original feed belt....1-6-90
(5) Adjusting the DP magnification....1-6-91
(6) Adjusting the DP center line....1-6-92
(7) Adjusting the scanning start position when the DP is used....1-6-93
(7-1) Adjusting the leading edge registration....1-6-93
(7-2) Adjusting the trailing edge registration....1-6-94
(8) Adjusting the margins for scanning the original from the DP....1-6-95
1-6-12 Others....1-6-96
(1) Detaching and refitting the waste toner box....1-6-96
(2) Detaching and refitting the developing rear fan filter....1-6-97
(3) Detaching and refitting the developing front fan filters....1-6-97
(4) Detaching and refitting the image formation fan filter....1-6-98
(5) Detaching and refitting the front cover filters....1-6-99
(6) Detaching and refitting the ozone filters....1-6-100

1-7 Requirements on PWB Replacement
1-7-1 Upgrading the firmware....1-7-1
1-7-2 Adjustment-free variable resistors (VR)....1-7-2
1-7-3 Remarks on main PWB replacement....1-7-2
1-7-4 Remarks on engine PWB replacement....1-7-3
1-7-5 Remarks on scanner PWB replacement....1-7-3
1-7-6 Upgrading the printer board firmware....1-7-4

2-1 Mechanical construction
2-1-1 Paper feed section....2-1-1
(1) Paper feed section 1 (cassette 1 and 2)....2-1-1
(2) Paper feed section 2 (cassette 3 and 4)....2-1-3
(3) Paper feed section 3....2-1-5
(4) MP tray and MP tray paper feed section....2-1-7
2-1-2 Main charger section....2-1-9
2-1-3 Optical section....2-1-11
(1) Original scanning....2-1-12
(2) Image printing....2-1-13
2-1-4 Developing section....2-1-15
(1) Single component developing system....2-1-17
2-1-5 Transfer section....2-1-18
2-1-6 Cleaning section....2-1-19
2-1-7 Fuser section....2-1-20
2-1-8 PTC section....2-1-22
2-1-9 Eject and feedshift section....2-1-24
2-1-10 Duplex section....2-1-26
(1) Circulation system (4 sheets circulation)....2-1-28
2-1-11 Document processor (DP) section....2-1-29

2-2 Electrical Parts Layout
2-2-1 Electrical parts layout....2-2-1
(1) PWBs....2-2-1
(2) Switches and sensors....2-2-3
(3) Motors....2-2-5
(4) Others....2-2-7
(5) PWBs (DP)....2-2-8

(6) Switches and sensors (DP) 2-2-9
(7) Others (DP) 2-2-10

2-3 Operation of the PWBs

2-3-1 AC power source PWB 2-3-1
2-3-2 DC power source PWB 2-3-4
2-3-3 Main PWB 2-3-8
2-3-4 Engine PWB 2-3-17
2-3-5 Scanner PWB 2-3-25
2-3-6 CCD PWB 2-3-29
2-3-7 Deck PWB 2-3-32
2-3-8 Cassette PWB 2-3-37
2-3-9 Duplex PWB 2-3-40
2-3-10 Operation PWB 2-3-45
2-3-11 DP main PWB 2-3-49

2-4 Appendixes

Chart of image adjustment procedures 2-4-1
Image quality 2-4-4
Maintenance parts list 2-4-5
Periodic maintenance procedures 2-4-7
Maintenance kits 2-4-13
Parts kits 2-4-14
Wiring diagram No.1 2-4-15
Wiring diagram No.2 2-4-16
Wiring diagram No.3 2-4-17
Wiring diagram No.4 2-4-18
Wiring diagram No.5 2-4-19
Wiring diagram No.6 2-4-20
Wiring diagram No.7 2-4-21
Wiring diagram No.8 2-4-22
Wiring diagram No.9 2-4-23
Wiring diagram No.10 2-4-24

1-1-1 Specifications

Copier

Type	Console
Copying system	Indirect electrostatic system
Originals	Sheets, books and three-dimensional objects Maximum size: A3/11" x 17"
Original feed system	Fixed
Copy paper	Weight Cassette: 60 - 160 g/m^2 MP tray: 45 - 200 g/m^2 Types Cassette: Plain paper, colored paper MP tray: Plain paper, special paper (colored paper, transparencies, etc.) and envelopes (when using the printer function only)
Copy sizes	Cassette Maximum: A3/11" x 17" Minimum: A5R/5 1/2" x 8 1/2" MP tray Maximum: A3/11" x 17" Minimum: A6R/5 1/2" x 8 1/2" During duplex copying Maximum: A3/11" x 17" Minimum: A5R/5 1/2" x 8 1/2"
Magnification ratios	Manual mode: 25 - 400%, 1% increments Auto copy mode: Fixed ratios
Copying speed	At 100% magnification in memory copy mode: 80 cpm A4/11" x 8 1/2": 80 sheets/min. A4R/8 1/2" x 11": 54 sheets/min. A3/11" x 17": 40 sheets/min. B4 (257 x 364 mm)/8 1/2" x 14": 50 sheets/min. B5: 80 sheets/min. B5R: 58 sheets/min. When the document processor is used (at 100% magnification): A4/11" x 8 1/2": 80 sheets/min. 60 cpm A4/11" x 8 1/2": 60 sheets/min. A4R/8 1/2" x 11": 43 sheets/min. A3/11" x 17": 31 sheets/min. B4 (257 x 364 mm)/8 1/2" x 14": 37 sheets/min. B5: 60 sheets/min. B5R: 47 sheets/min. When the document processor is used (at 100% magnification): A4/11" x 8 1/2": 60 sheets/min.
First copy time	2.9 s or less (80 cpm)/3.6 s or less (60 cpm) (A4/11" x 8 1/2", 100% magnification, cassette 1)
Warm-up time	30 s Recovery from low power mode: 10 s Recovery from sleep mode: 30 s (room temperature 23 °C/73.4 °F, 50%RH)
Paper feed system	Automatic feed (four cassettes) Capacity: 1500 sheets (80 g/m^2) x 2 500 sheets (80 g/m^2)/525 sheets (75 g/m^2) x 2 Manual feed Capacity: MP tray: 100 sheets (80 g/m^2)
Multiple copying	1 - 9999 sheets
Photoconductor	a-Si (drum diameter 84 mm)
Charging system	Double positive corona charging
Recording system	Semiconductor laser

Developing system	Dry, reverse developing (single component system) Developer: 1-component, magnetism toner Toner replenishing: Automatic from a toner container
Transfer system	Transfer belt, approximately 1.5 kV
Separation system	Transfer belt and separation claws
Fusing system	Heat roller Heat source: Halogen heaters 120 V specifications Main 1080 W, sub 500 W, small size 1000 W 220 -240 V specifications Main 1350 W, sub 500 W, small size 1100 W Control temperature: 200 °C/392 °F (80 cpm)/195 °C/383 °F (60 cpm) (at normal ambient temperature) Control temperature: (at normal ambient temperature) Abnormally high temperature protection devices: thermostats
Charge erasing system	Exposure by cleaning lamp
Cleaning system	Blade and fur brush
Scanning system	Flat bed scanning by CCD image sensor
Bitmap memory	128 MB (standard)
Image storage memory	40 GB (standard)
Resolution	600 x 600 dpi
Light source	Inert gas lamp (30 W)
Dimensions	680 (W) x 783 (D) x 1190 (H) mm 26 3/4" (W) x 30 13/16" (D) x46 7/8" (H)
Weight	Approx. 188 kg/Approx. 413.6 lbs
Floor requirements	1480 mm (W) x 783 (D) mm 58 1/4" (W) x 30 13/16" (D)
Functions	Selecting image quality, Adjusting exposure, Auto zoom, Manual zoom, Preset zoom, XY zoom, Duplex mode, Split mode, Sort mode, Auto paper selection, Offset mode, Combine mode, Margin mode, Centering originals, Border erase, Page numbering, Cover mode, Form overlay, Booklet from sheets, Booklets from booklets, Memo mode, Batch scanning, Proof mode, Repeat copy, Backing sheets for transparencies, Auto rotation, EcoPrint (economy printing) mode, Inverted copying, Mirror image, Auto selection mode, Multi-page forms, Programmed copying, Programming multi-part jobs, Form box, Shared data box, Synergy print box, Output management, Job accounting mode, Weekly timer, Language setting
Power source	120 V AC, 60 Hz, 16.0 A/220 - 240 V AC, 50/60 Hz, 9.5 A
Power consumption	1920 W
Options	Side feeder, document finisher, key counter, printer kit, scanner kit, security kit and output tray.

Document processor (DP)

Original feed system	Automatic feed
Scanning system	Contact Image Sensor (CIS)
Originals	Sheets
Original weights	45 - 160 g/m^2
Original sizes	A3 - A5R, folio/11" x 17" - 5 1/2" x 8 1/2"
No. of originals	200 sheets <plain paper (80 g/m^2), colored paper, recycled paper, high quality paper (50 g/m^2)> 145 sheets (110 g/m^2) 1 sheet (coated paper)
Power source	Supplied via copier

1-1-2 Parts names

(1) Copier

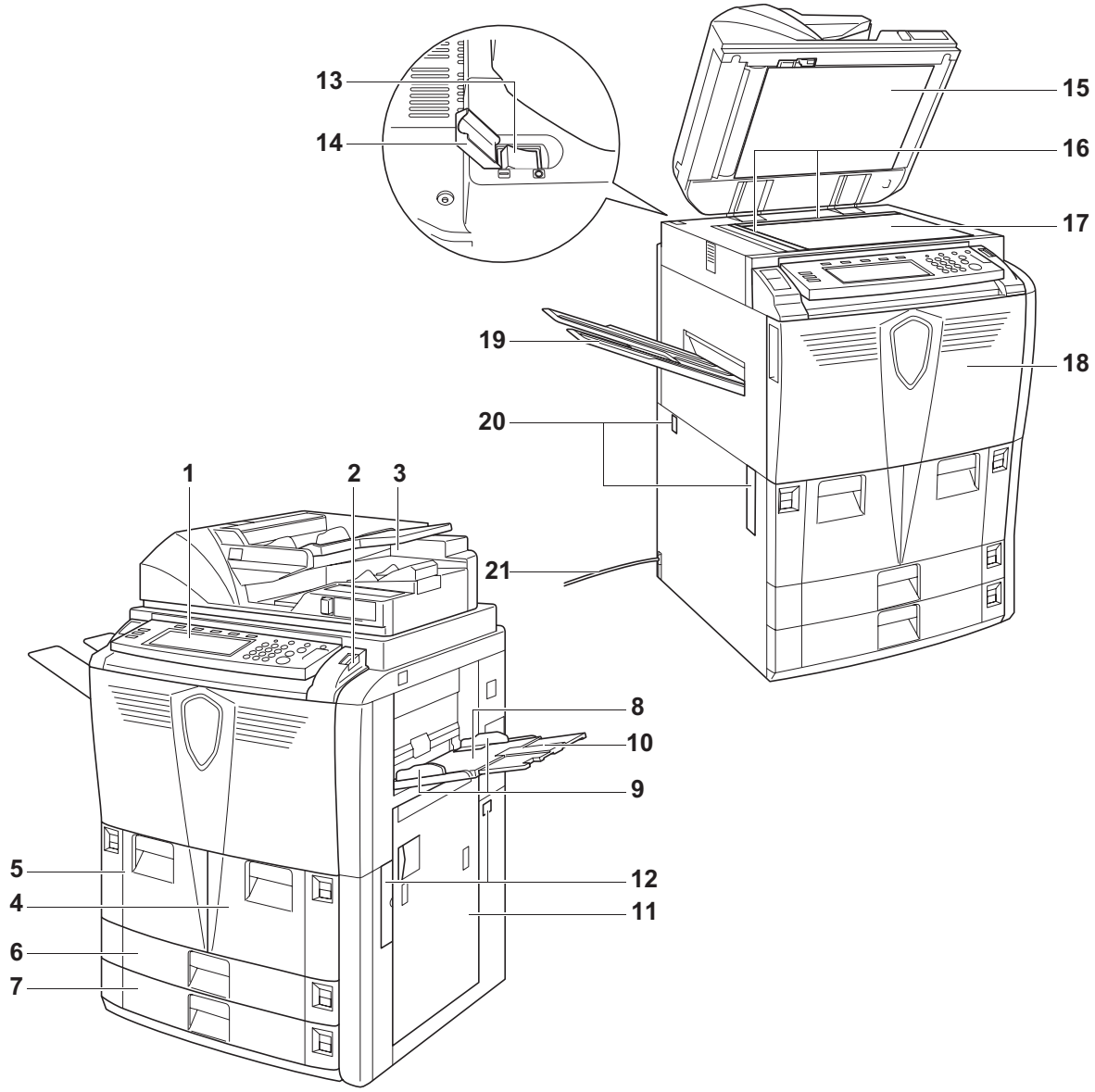


Figure 1-1-1

1. Operation panel
2. Operation panel lock lever
3. Document processor (DP)
4. Cassette 1
5. Cassette 2
6. Cassette 3
7. Cassette 4
8. MP tray
9. Paper width guides
10. MP tray extension
11. Right cover
12. Handles
13. Main power switch
14. Main power switch cover
15. Document processor bottom cover
16. Original size indicator plates
17. Platen
18. Front cover
19. Output tray (option)
20. Handles
21. Power cord

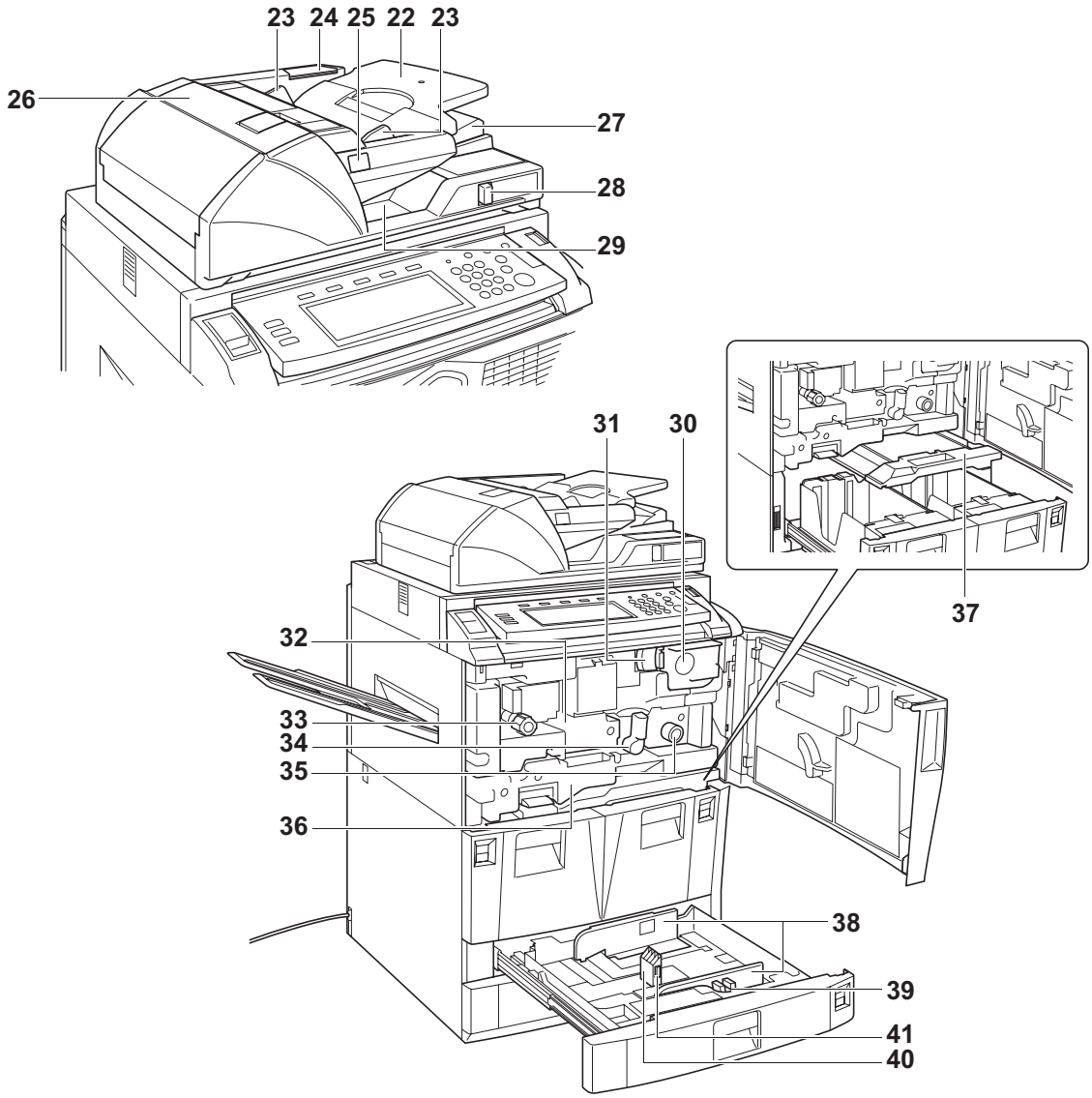


Figure 1-1-2

22. Original table
23. Original width guides
24. Cleaning cloth compartment
25. Original loaded Indicator
26. Document processor top cover
27. Ejection guide
28. Document processor angle adjustment lever
29. Original eject table
30. Toner container
31. Toner container release lever
32. Paper conveyor
33. Knob A1
34. Lever A2
35. Knob A3
36. Duplex unit
37. Deck conveying unit
38. Paper width guides
39. Paper width adjusting tab
40. Paper length guide
41. Paper length adjusting tab

(2) Operation panel

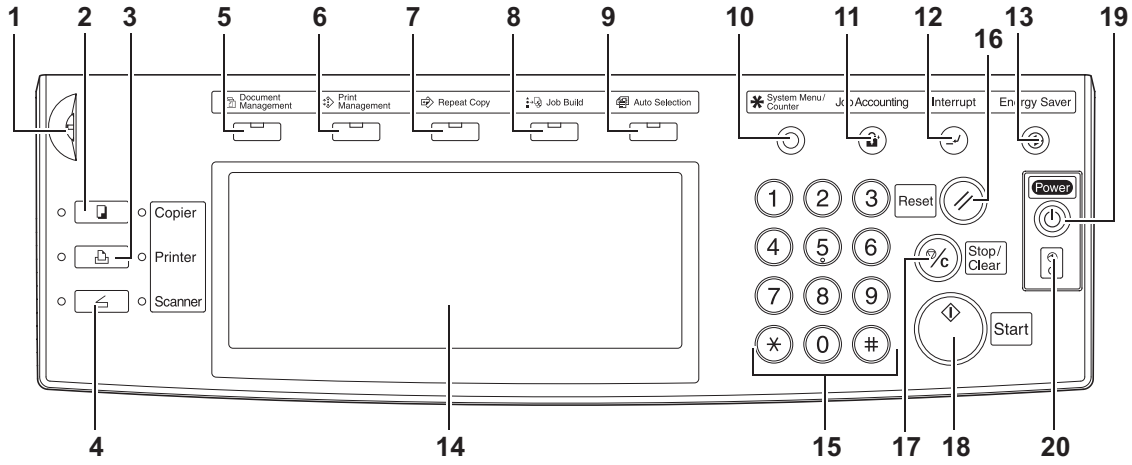


Figure 1-1-3

1. Brightness adjustment dial
2. Copy key/indicator
3. Printer key/indicator
4. Scanner key/indicator
5. Document management key/indicator
6. Print management key/indicator
7. Repeat copy key/indicator
8. Job build key/indicator
9. Auto selection key/indicator
10. System menu/counter key
11. Job accounting key
12. Interrupt key/indicator
13. Energy saver key/indicator
14. Touch panel
15. Numeric keys
16. Reset key
17. Stop/clear key
18. Start key/indicator
19. Power key/indicator
20. Main power indicator

1-1-3 Cross section view

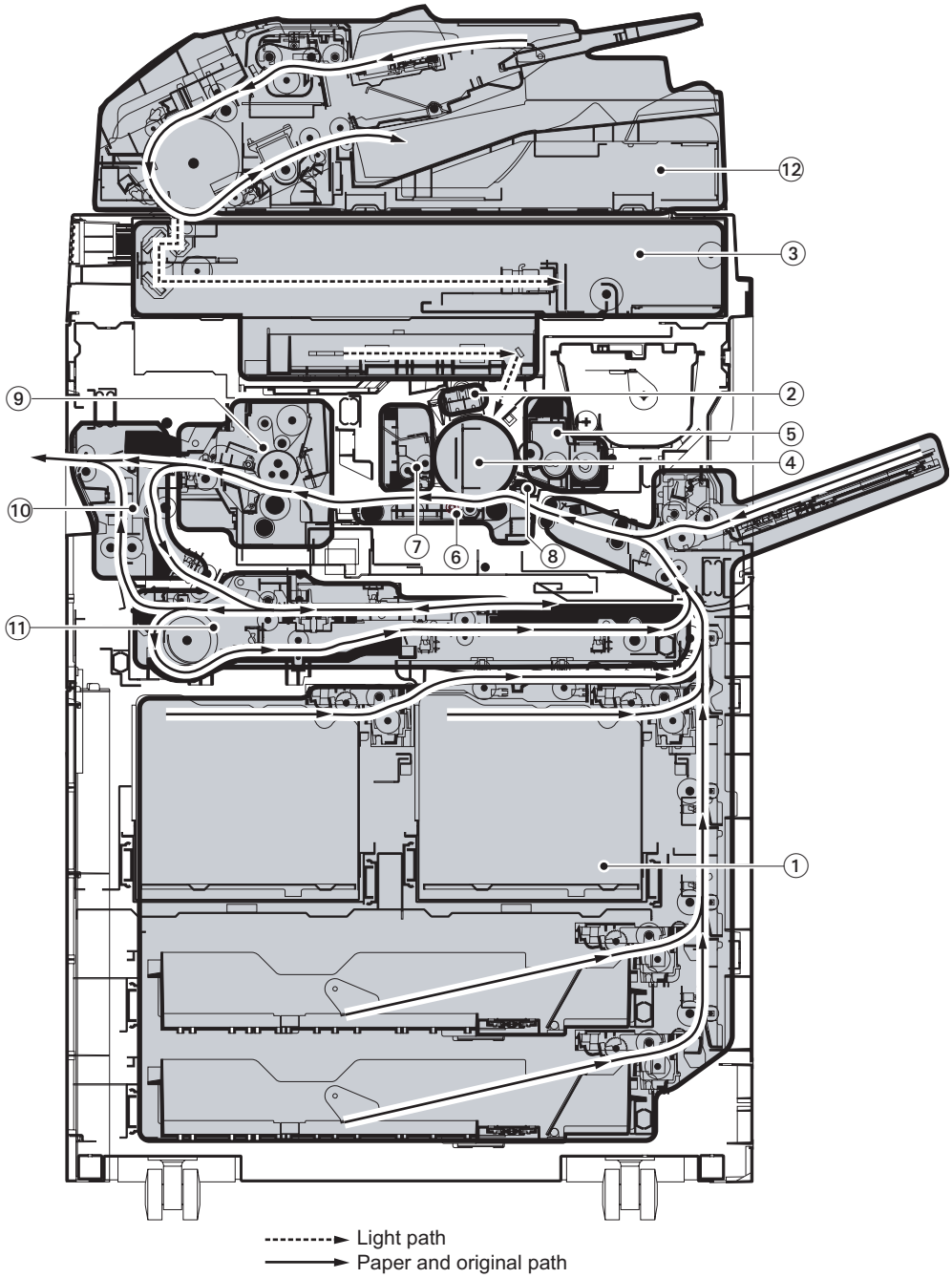


Figure 1-1-4

1. Paper feed section
2. Main charging section
3. Optical section
4. Drum section
5. Developing section
6. Transfer section
7. Cleaning section
8. PTC section
9. Fuser section
10. Feedshift and eject section
11. Duplex section
12. Document processor

1-1-4 Drive system

(1) Drive system 1 (Optical section)

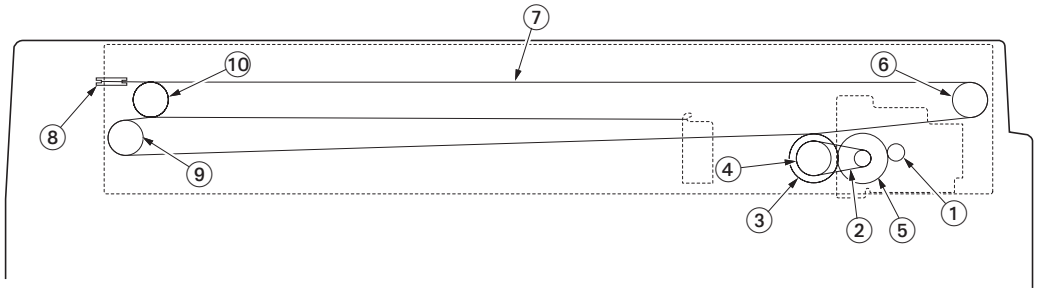


Figure 1-1-5

1. Scanner motor
2. Belt scanner
3. Drum pulley
4. Gear Z36
5. Gear Z18/39
6. Pulley scanner
7. Front/Rear wire scanner
8. Pulley moving idle
9. Pulley scanner
10. Pulley scanner

(2) Drive system 2 (Cassette paper feed)

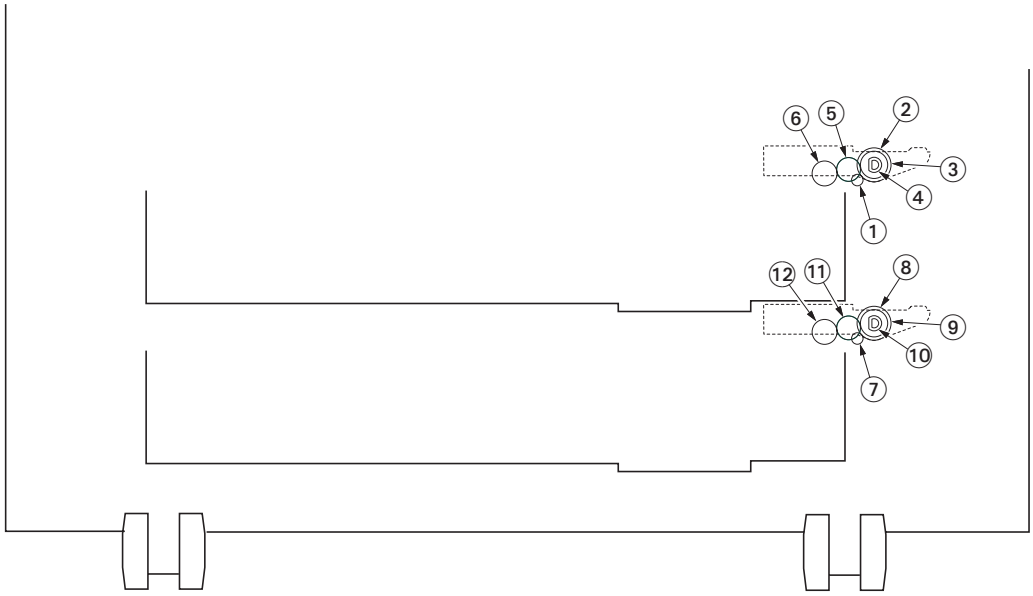


Figure 1-1-6

1. Paper feed motor 3
2. Gear cassette feed
3. Upper gear paper feed
4. Joint drive
5. Gear 16 idle
6. Pulley leading feed
7. Paper feed motor 4
8. Gear cassette feed
9. Upper gear paper feed
10. Joint drive
11. Gear 16 idle
12. Pulley leading feed

(3) Drive system 3 (Deck paper feed)

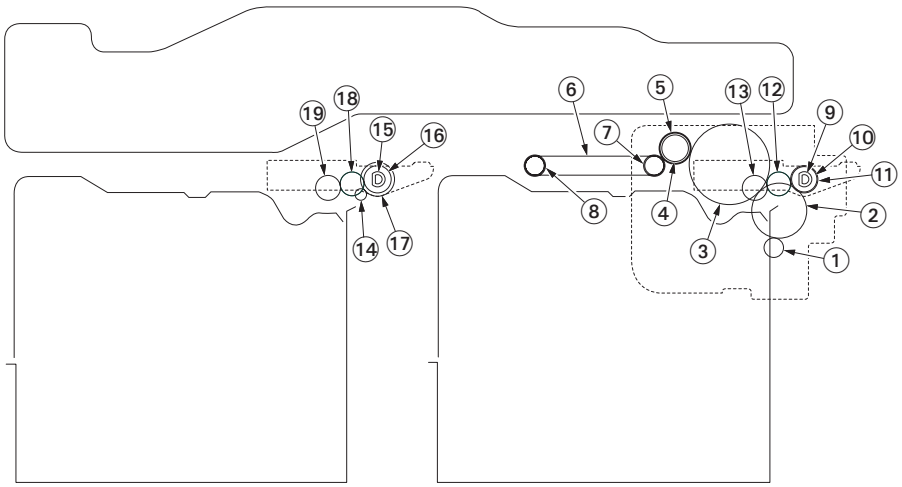


Figure 1-1-7

1. Paper feed motor 1
2. Gear idle 50
3. Gear idle B
4. Gear 27/24 one-way L
5. Gear deck
6. Belt deck feed
7. Pulley deck
8. Pulley deck
9. Joint drive
10. Gear feed
11. Upper gear paper feed
12. Gear 16 idle
13. Pulley Leading feed
14. Paper feed motor 2
15. Joint drive
16. Upper gear paper feed
17. Gear feed 27
18. Gear 16 idle
19. Pulley leading feed

(4) Drive system 4 (Deck lift)

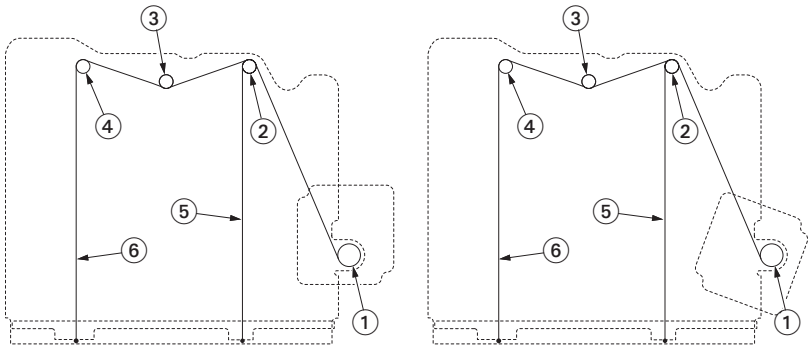


Figure 1-1-8

1. Front/Rear pulley lift drive
2. Pulleys lift wire
3. Pulleys lift wire
4. Pulleys lift wire
5. Left wires A lift
6. Left wires B lift

(5) Drive system 5 (Vertical paper feed)

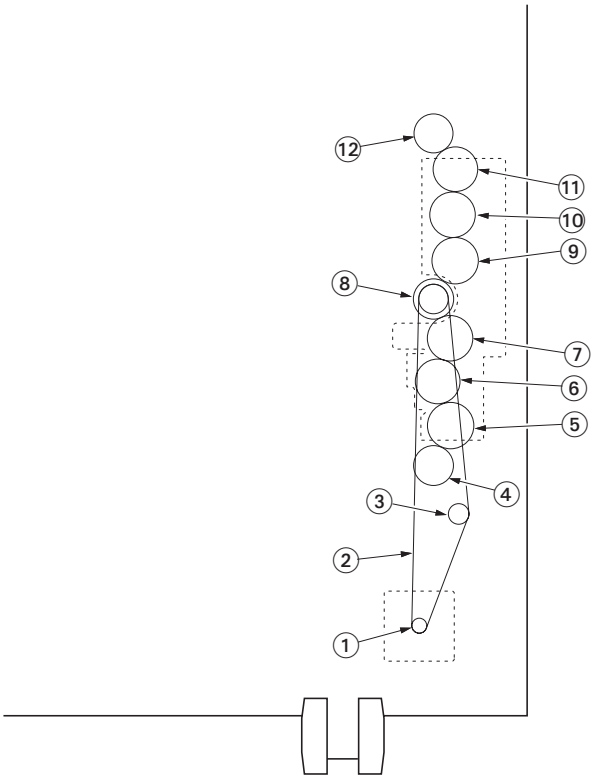


Figure 1-1-9

1. Vertical feed motor
2. Belt vertical feed
3. Pulley 26 vertical feed
4. Gear 32 vertical feed
5. Gear 38 vertical feed
6. Gear 38 vertical feed
7. Gear 38 vertical feed
8. Pulley 32 vertical feed
9. Gear 38 vertical feed
10. Gear 38 vertical feed
11. Gear 38 vertical feed
12. Gear 32 vertical feed

(6) Drive system 6 (MP tray paper feed)

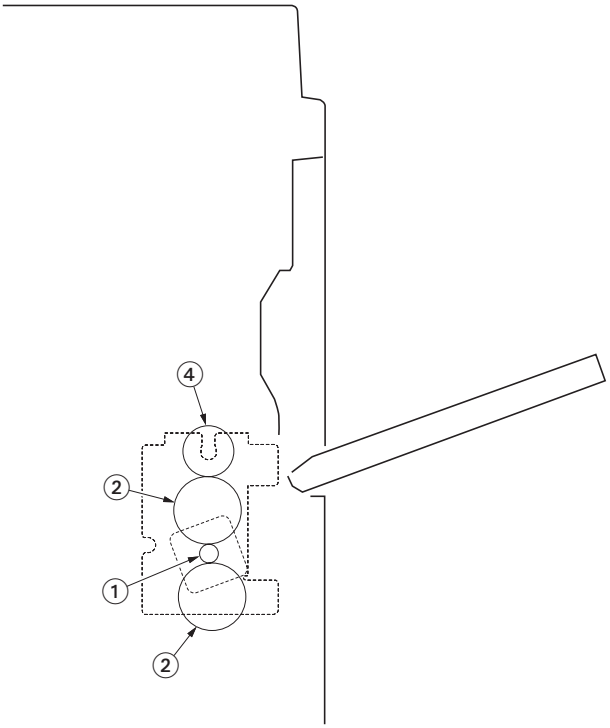


Figure 1-1-10

1. MP feed motor
2. Gear 54 MP tray
3. Gear 54 MP tray
4. Gear 44 MP tray

(7) Drive system 7 (Paper conveying)

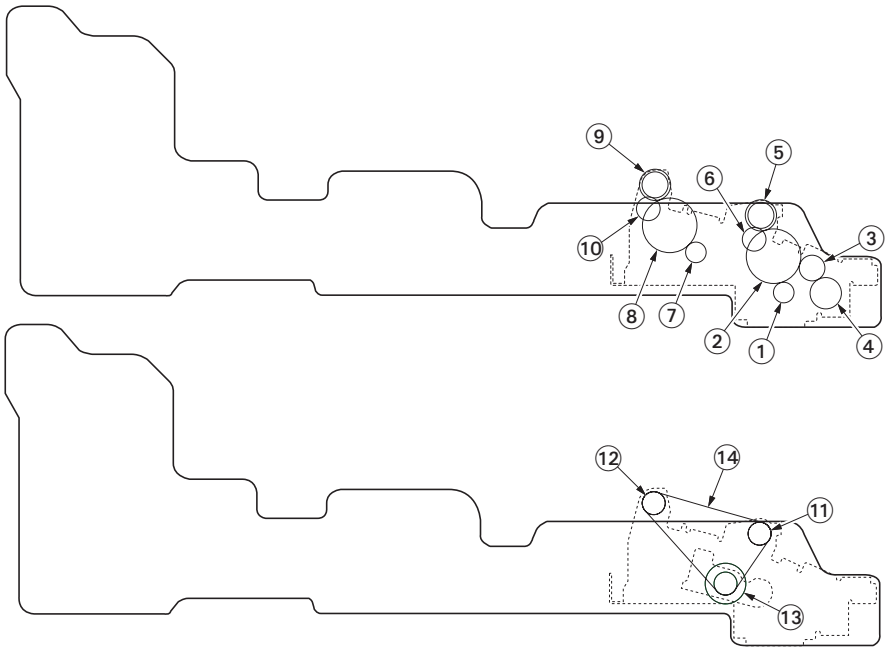


Figure 1-1-11

1. Registration motor
2. Gear 47 feed
3. Gear 21 feed
4. Gear Z18H feed
5. Gear Z18H-Z18S feed
6. Gear 16 registration
7. Feed motor
8. Gear 43 feed
9. Gear 25 feed A
10. Gear 16 registration
11. Pulley 26 one-way feed
12. Pulley 26 one-way feed
13. Gear 26/34 feed
14. Belt feed handle

(8) Drive system 8 (Drive motor and developing motor drive trains)

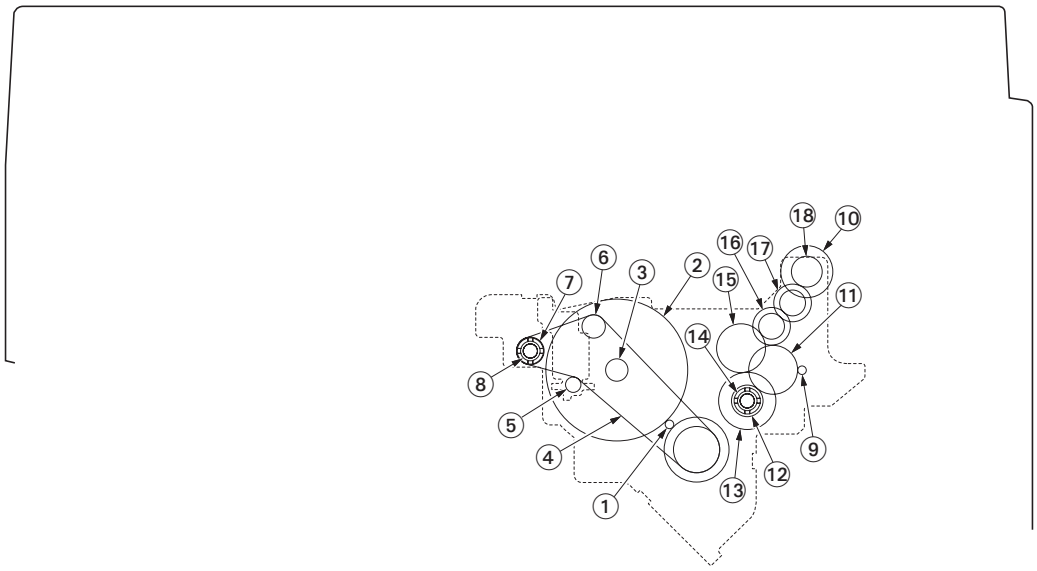


Figure 1-1-12

1. Drive motor
2. Gear 183 drum drive
3. Shaft drum drive
4. Belt cleaning drive
5. Pulley tension
6. Pulley 19 drive
7. Pulley 22 CL
8. Coupling CL drive
9. Developing motor
10. Gear 44
11. Gear 40 DLP
12. Gear 25 DLP
13. Gear 70 DLP
14. Coupling DLP drive
15. Gear 64 DLP
16. Gear 30/50 joint
17. Gear 30/50 joint
18. Gear 40 DLP joint

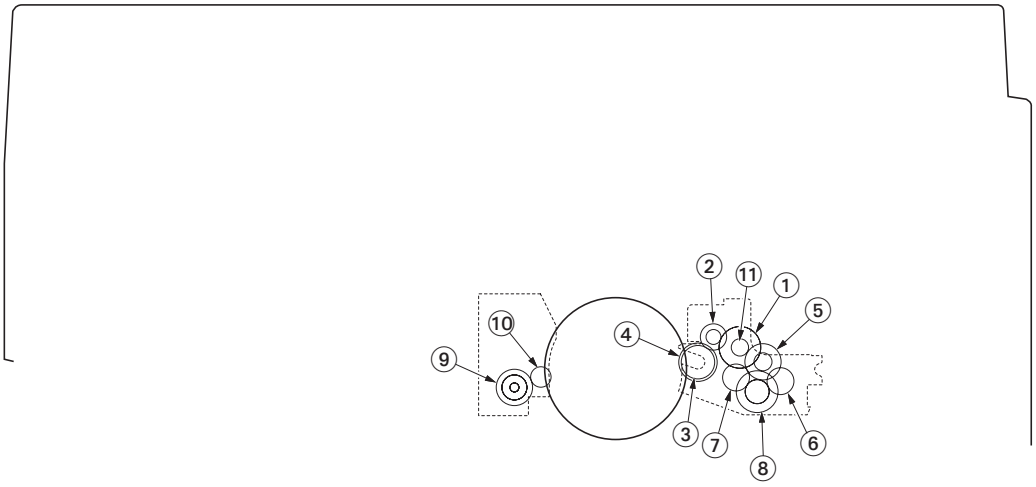


Figure 1-1-13 developing and cleaning sections

1. Gear DLP input Z32H
2. Gear DLP idle Z22H/Z15H
3. Gear magnet roller Z25H
4. Developing roller
5. Gear Z30S-Z15S
6. Gear mixer Z22S
7. Gear mixer Z22S
8. Gear mixer idle Z35S/Z20S
9. Gear 29/20 spiral
10. Gear 16 fur brush
11. Gear DLP input 15S

(9) Drive system 9 (Transfer motor, fuser motor drive train)

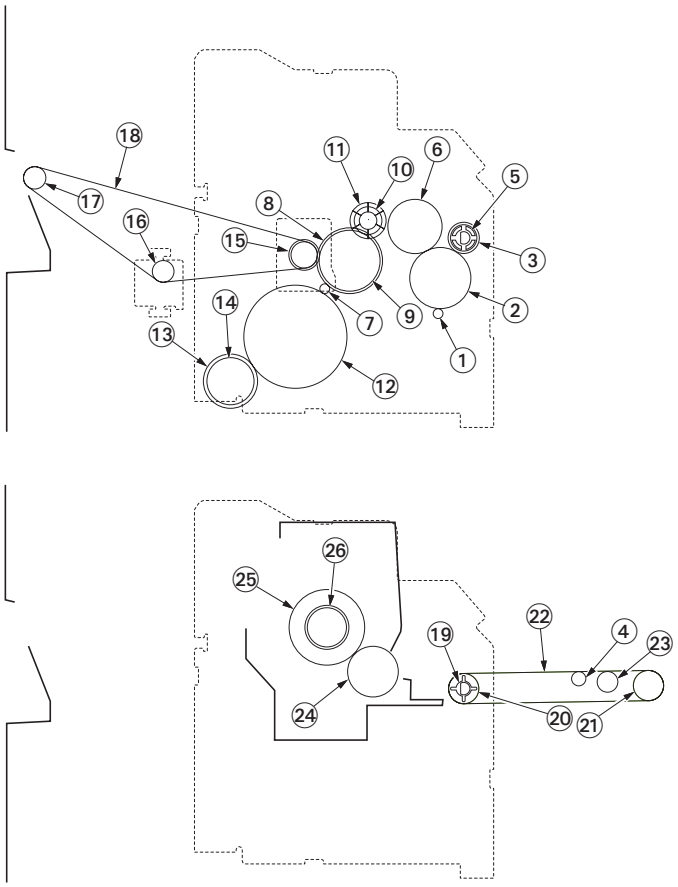


Figure 1-1-14

1. Transfer motor
2. Gear 82 TFR
3. Gear 36 TFR
4. TC ground roller
5. Coupling TC drive
6. Gear 65
7. Fuser motor
8. Gear 88 fuser
9. Gear 40 fixing
10. Gear 19 fixing
11. Coupling fixing joint
12. Gear 133 duplex
13. Gear 71 duplex
14. Gear 29 duplex
15. Gear 19/33 eject
16. Pulley 20
17. Pulley 24 eject
18. Belt eject drive
19. Joint transfer drive
20. Roller belt drive
21. Idle belt roller
22. Transfer belt
23. Transfer roller
24. Gear fuser joint
25. Gear 50 heat roller
26. Heat roller

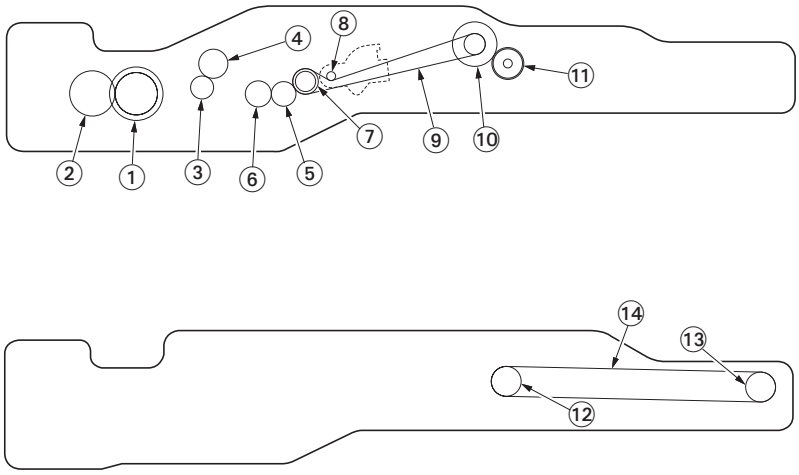


Figure 1-1-15 Duplex section

1. Gear 28/35
2. Gear DU 30 one-way
3. Duplex switchback motor
4. Gear 24 DU conveying
5. Duplex feed motor
6. Gear DU 17
7. Pulley 24/24 DU conveying
8. Pulley DU tension
9. Belt rear feed
10. Gear 37/24 DU conveying
11. Gear 27/24 one-way L
12. Pulley 30 DU
13. Pulley 30 DU
14. Belt front drive

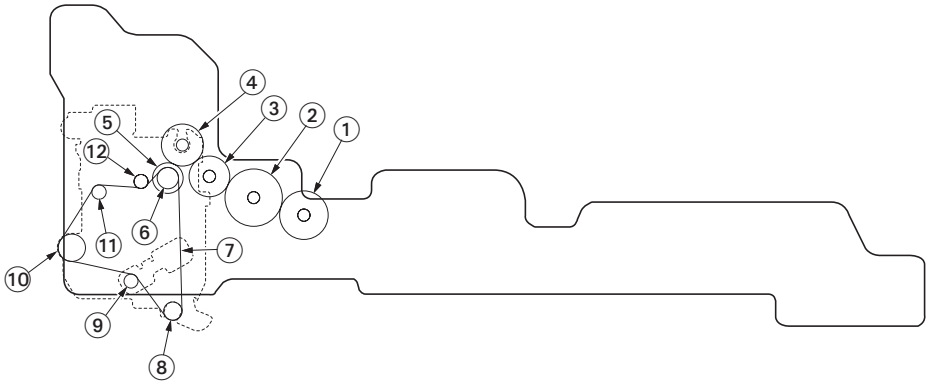


Figure 1-1-16 Feedshift and eject sections

1. Gear 33 conveying idle
2. Gear 38T
3. Gear 27
4. Gear fuser eject joint
5. Gear feed shift
6. Pulley 22
7. Belt feed shift
8. Pulley 20
9. Pulley drive
10. Pulley 30
11. Pulley 16
12. Pulley drive

(10) Drive system 10 (Toner motor drive train)

Figure 1-1-17

1. Toner motor
2. Gear Z70/Z16S
3. Gear Z56S/Z20S
4. Gear 38
5. Gear joint CONT
6. Coupling container

(11) Drive system 11 (Document processor)

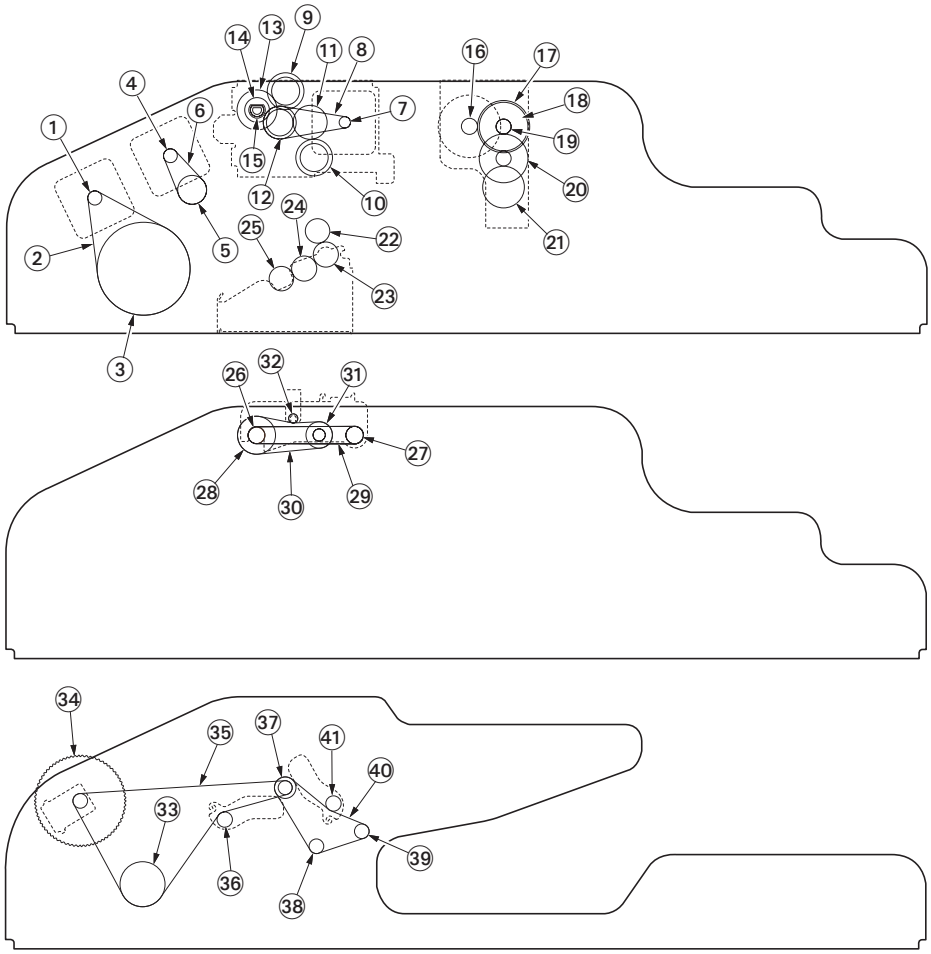


Figure 1-1-18

1. Original conveying motor
2. Timing belt C motor 244
3. Pulley C roller 99
4. Original registration motor
5. Pulley R roller 32
6. Timing belt R motor 102
7. Original feed motor
8. Belt 138 feed
9. Gear 30/23
10. Gear 30/23
11. Gear 28
12. Gear Z22ZP35
13. Gear 33
14. Gear 20
15. Joint PF drive
16. DP lift motor
17. Gear 69 joint
18. Gear 20/65 idle
19. Gear 20 joint
20. Gear 20/65 idle
21. Gear lift 55
22. Gear CIS roller 20
23. Gear CIS idle 21
24. Gear CIS idle 21
25. Gear CIS roller 20
26. Pulley 20
27. Pulley 20
28. Belt 170 LF
29. Collar PF A
30. Roller tension
31. Belt PF
32. Collar PF B
33. Pulley C roller 48
34. Dial jam remover
35. Timing belt C idle 370
36. Pulley 10
37. Pulley C idle 16/24
38. Pulley E roller
39. Pulley E roller
40. Timing belt E roller 174
41. Pulley 10

1-2-1 Drum

Note the following when handling or storing the drum.

- When removing the drum, never expose the drum surface to strong direct light.
- Keep the drum at an ambient temperature between -20 °C/-4 °F and 40 °C/104 °F and at a relative humidity not higher than 90% RH.
  Avoid abrupt changes in temperature and humidity.
- Avoid exposure to any substance which is harmful to or may affect the quality of the drum.
- Do not touch the drum surface with any object. Should it be touched by hands or stained with oil, clean it.

1-2-2 Toner container

- Store the toner container in a cool, dark place.
- Avoid direct light and high humidity.

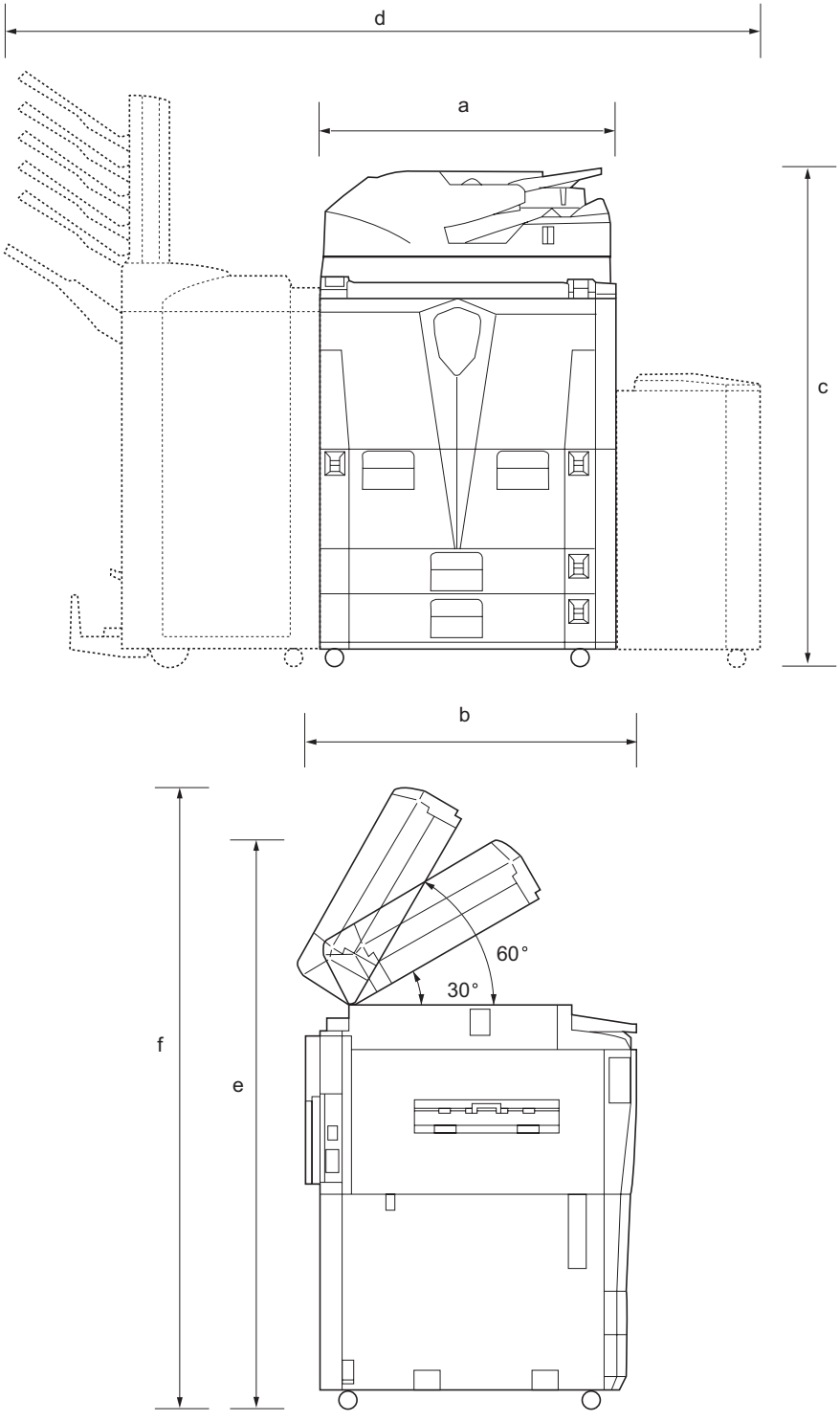
1-2-3 Installation environment

1. Temperature: 10 - 32.5 °C/50 - 90.5 °F
2. Humidity: 15 - 80%RH
3. Power supply: 120 V AC, 16.0 A
   220 - 240 V AC, 9.5 A
4. Power source frequency: 50 Hz ±2%/60 Hz ±2%
5. Installation location

- Avoid direct sunlight or bright lighting. Ensure that the photo-conductor will not be exposed to direct sunlight or other strong light when removing paper jams.
- Avoid extremes of temperature and humidity, abrupt ambient temperature changes, and hot or cold air directed onto the machine.
- Avoid dust and vibration.
- Choose a surface capable of supporting the weight of the machine.
- Place the machine on a level surface (maximum allowance inclination: 1°).
- Avoid air-borne substances that may adversely affect the machine or degrade the photo-conductor, such as mercury, acidic of alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
- Select a room with good ventilation.

6. Allow sufficient access for proper operation and maintenance of the machine.

Machine front: 1000 mm/39 3/8" Machine rear: 100 mm/3 15/16"
Machine right: 700 mm/27 9/16" Machine left: 600 mm/23 5/8"

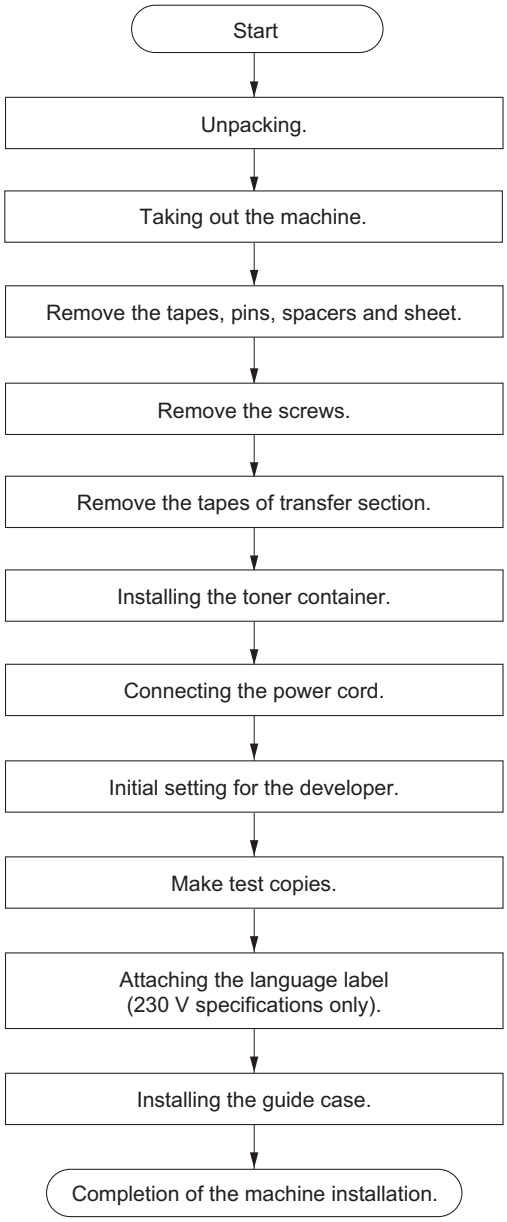


a: 680 mm/26 3/4"
b: 783 mm/30 13/16"
c: 1190 mm/46 7/8"
d: 1860 mm/73 3/16"
e: 1465 mm/57 11/16"
f: 1530 mm/60 3/16"

Figure 1-2-1 Installation dimensions

1-3-1 Unpacking and installation

(1) Installation procedure



Unpacking.

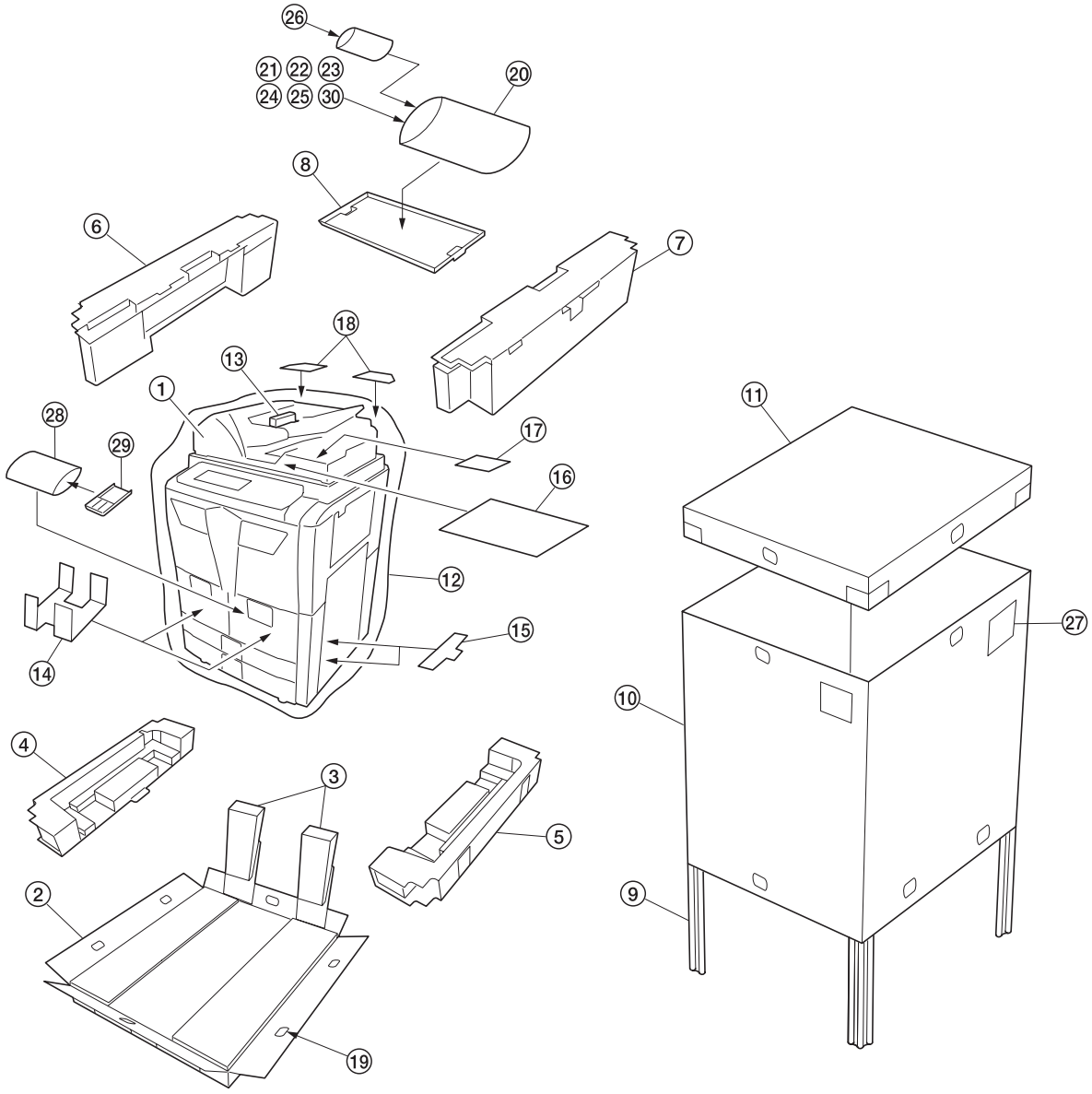


Figure 1-3-1 Unpacking

1. Main body
2. Skid
3. Slopes
4. Lower left spacer
5. Lower right spacer
6. Upper left spacer
7. Upper right spacer
8. Upper spacer
9. Supports
10. Outer case
11. Upper case
12. Machine cover
13. DP spacer
14. Deck spacers
15. Cassette spacers
16. Sheet
17. DP sheet
18. Rear sheets
19. Hinge joints
20. Plastic bag
21. Operation guide
22. Casette size plates
23. Operation unit label*
24. MP label*
25. DP label*
26. M3 x 8 screws
27. Bar code labels
28. Plastic bag
29. Guide case
30. Main power switch label*

*230 V specifications only.

Taking out the machine.

When taking out the machine, a space for machine rear requires approximately 2 m.

1. Remove the hinge joints, and then remove the upper case, the upper spacer, the upper left spacer, the upper right spacer, the outer case and the supports.
2. Cut four tapes of the skid each corner.
3. Cut each tape which locks the slope and the spacer.
4. Rotate slopes as shown in the figure and make them for machine sliding.

* Finally, check that there is no level difference in slopes (circle section of figure 1-3-2).

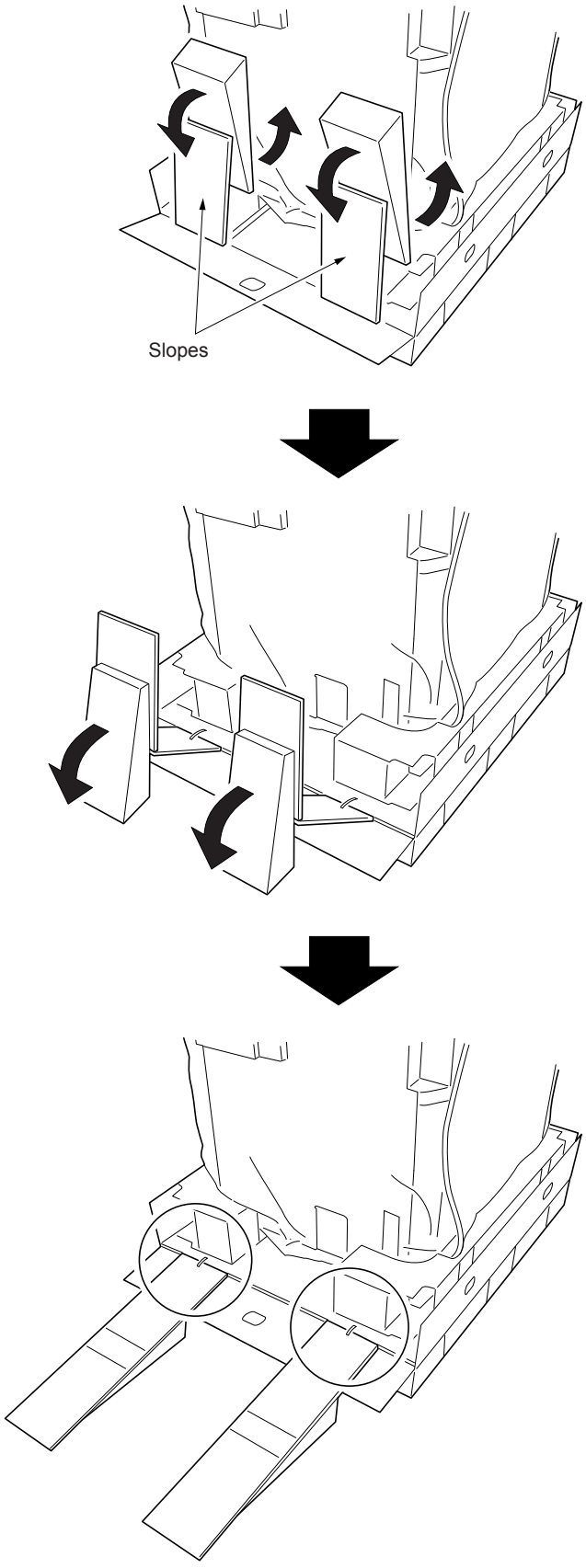


Figure 1-3-2

5. Remove the machine cover and pull out the handles on machine left and right.
6. Lift the machine each left and right one side, and then remove the lower left and right spacers.
7. Move the machine alongside slopes to slide to the floor.

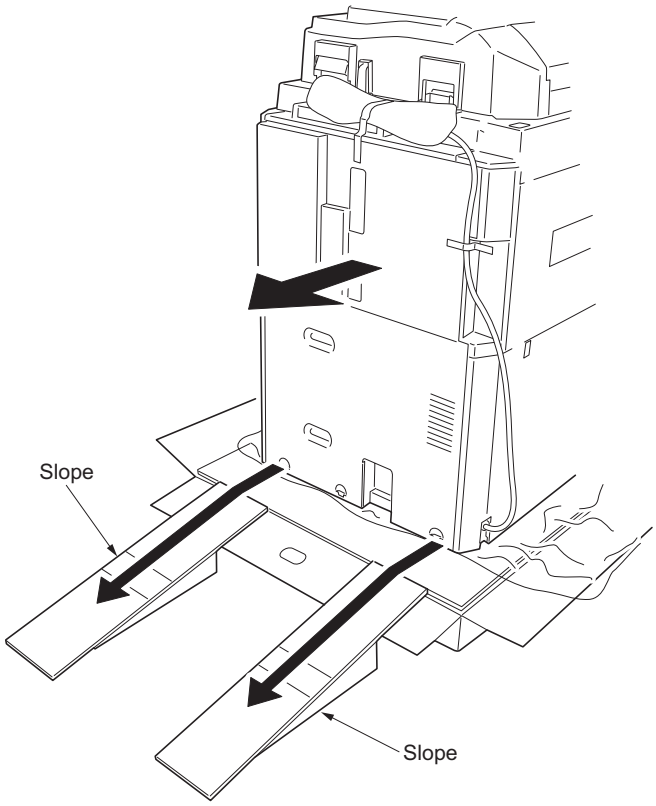


Figure 1-3-3

Remove the tapes, pins, spacers and sheet.

1. Remove nineteen tapes, DP spacer and DP sheet.

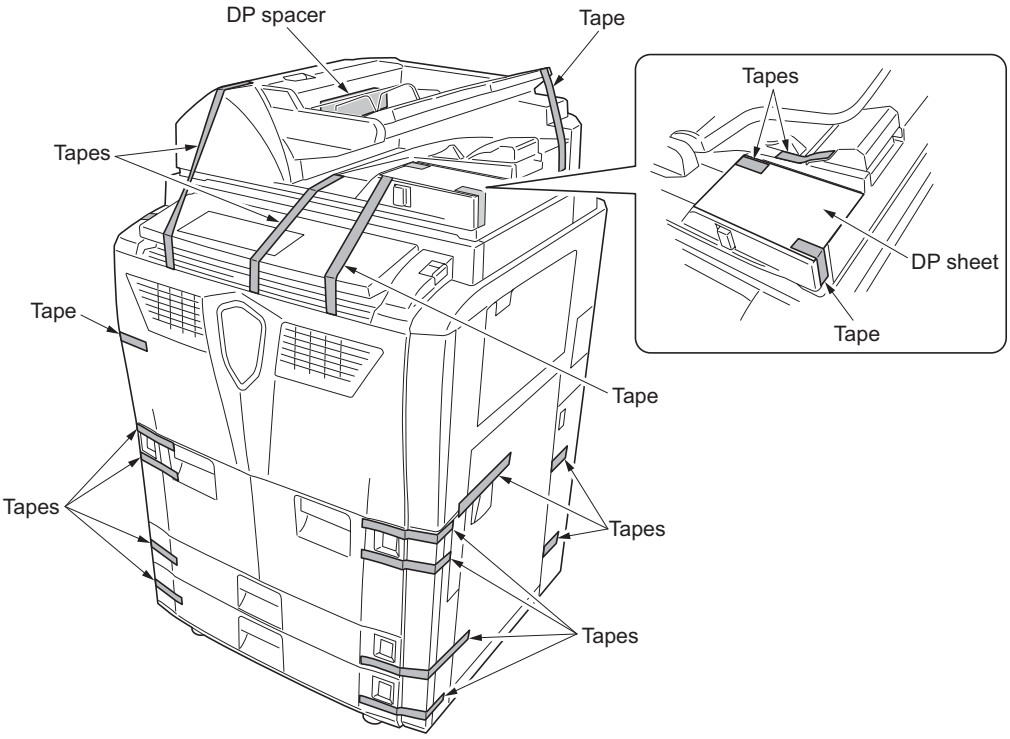


Figure 1-3-4

2. Remove four tapes, two pins for light source unit 1 and pin for light source unit 2.

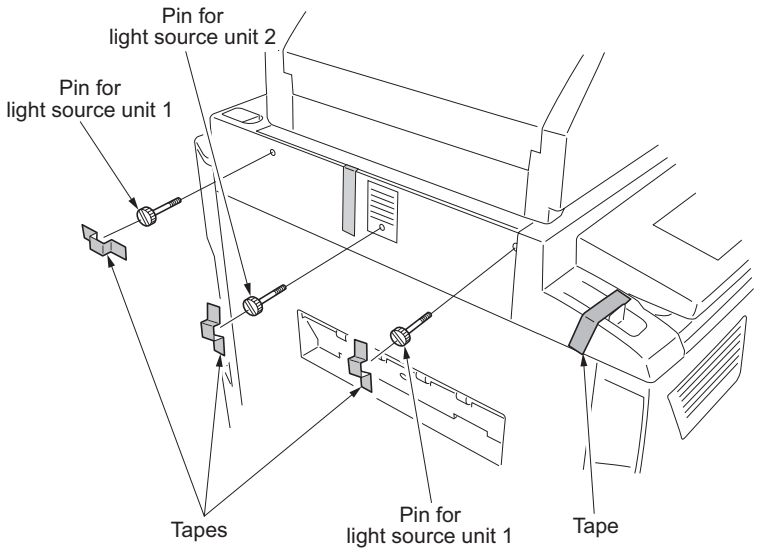


Figure 1-3-5

3. 120 V specifications
   Remove the two tapes of power cord.
   230 V specifications
   Remove the tape of power cord.

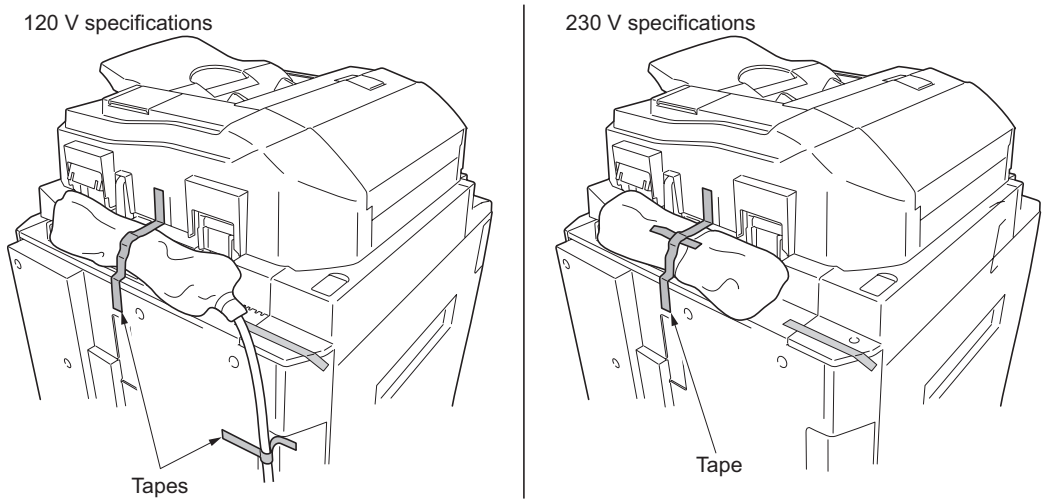


Figure 1-3-6

4. Remove four tapes and two rear sheets.

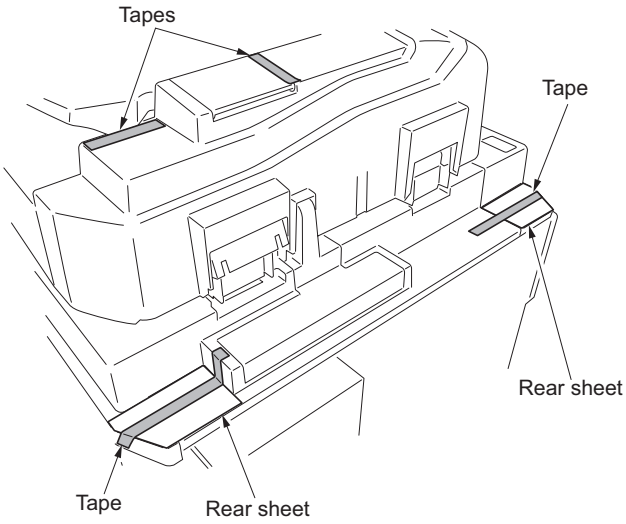


Figure 1-3-7

5. Open the DP and then remove three tapes and sheet.

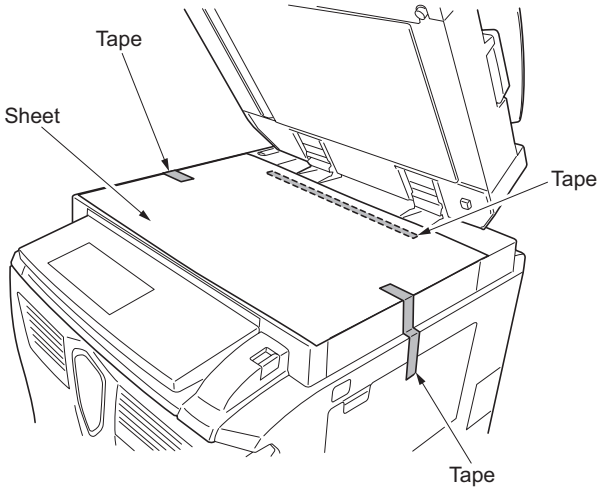


Figure 1-3-8

6. Pull out cassette 1 and 2, then remove two deck spacers.
7. Remove the tape from the deck spacer of cassette 1 and then remove the guide case.

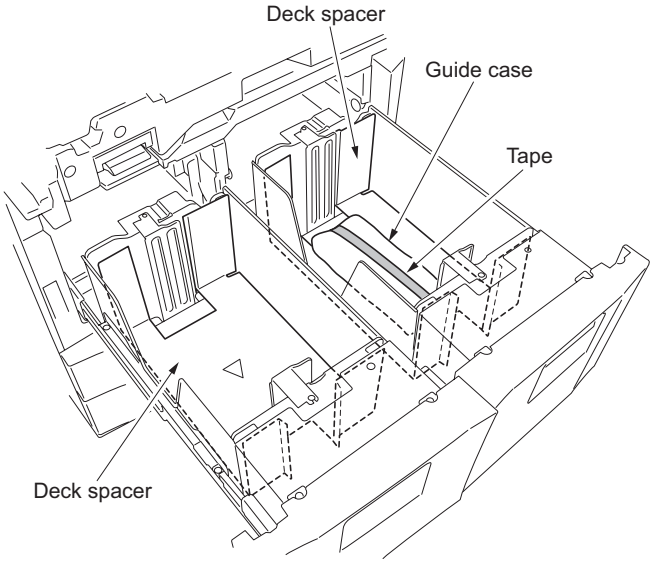


Figure 1-3-9

8. Pull out cassette 3 and 4, then remove two cassette spacers and tapes.

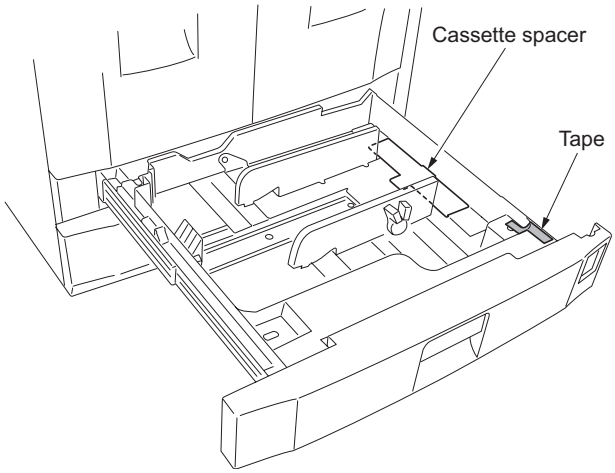


Figure 1-3-10

Remove the screws.

1. Open the front cover and remove two screws.

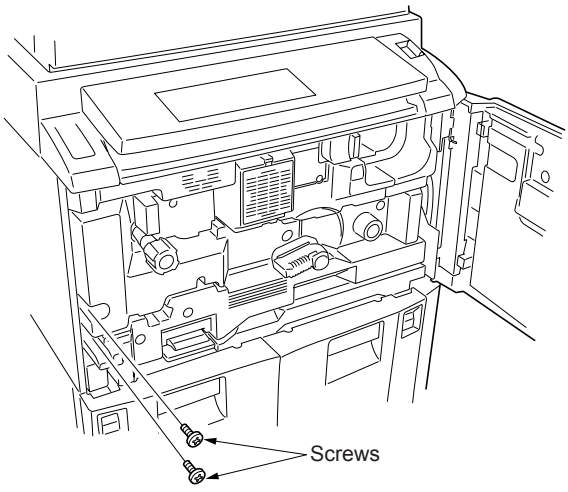


Figure 1-3-11

Remove the tapes of transfer section.

1. Pull out the paper conveying unit.
2. Remove two tapes from the transfer section.

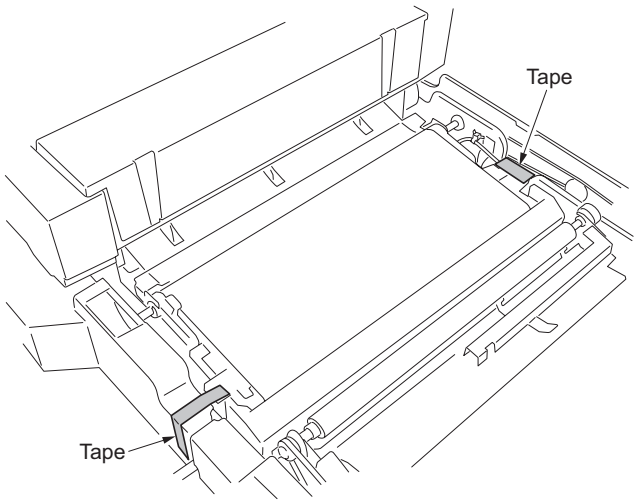


Figure 1-3-13

3. Refit the conveying unit.

Installing the toner container.

1. Set the toner container on a flat surface.
   * When setting it down with the gear-end facing down, place some cushioning material underneath.
2. Tap the top of the toner container at least ten times.
3. Turn the toner container upside-down and tap the top of the toner container at least ten times.
4. Holding the toner container in both hands, shake it vertically at least ten times to distribute the toner evenly.
5. Turn the toner container upside-down and shake it vertically at least ten times.
6. Hold the toner container horizontally and shake it from side to side at least five times.
   * Do not install the toner container before shaking it sufficiently. This may cause errors due to incomplete toner replenishment.

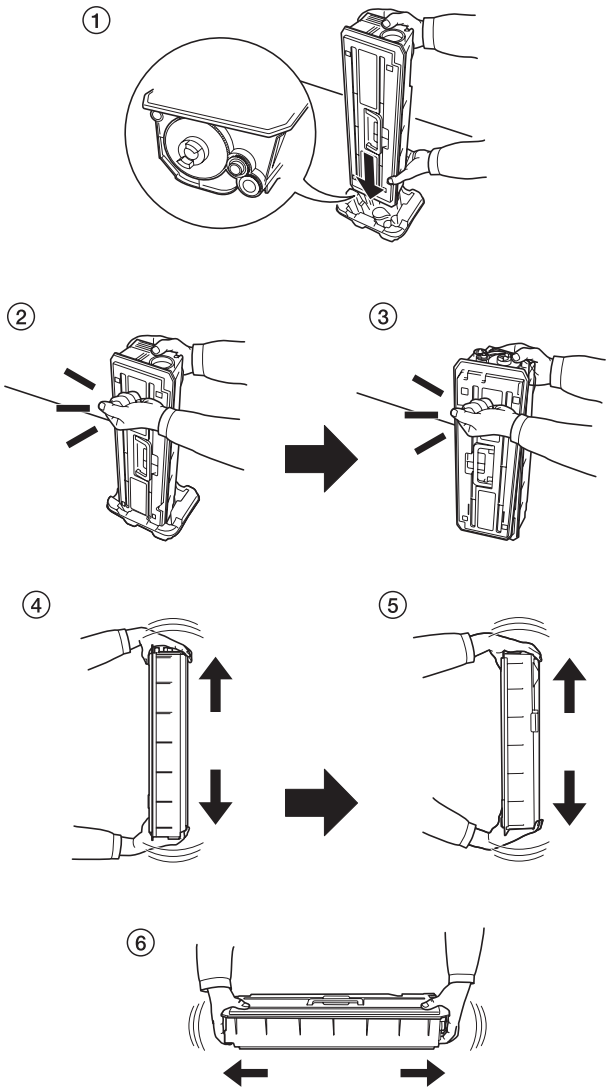


Figure 1-3-14

7. Insert the toner container into the machine.
8. Close the front cover.

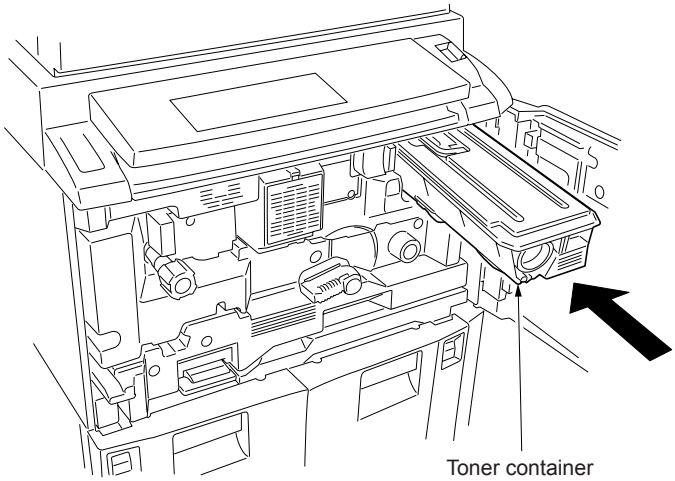


Figure 1-3-15

Connecting the power cord.

1. Connect the power cord to the inlet on lower left of the machine. (230 V specifications only.)
2. Connect the power plug to the wall outlet.

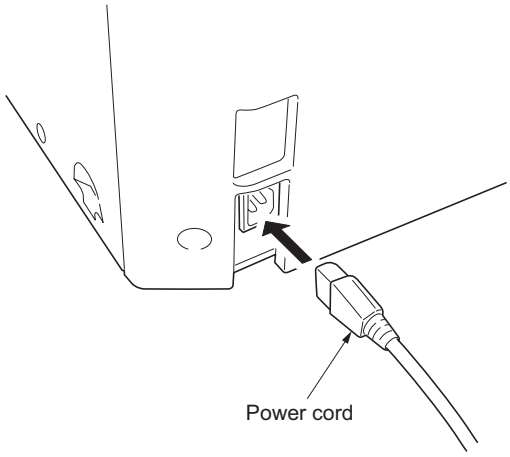


Figure 1-3-16

Initial setting for the developer.

1. Turn on the power switch.
2. Enter 10871087 using the numeric keys to enter the maintenance mode.
3. Enter 130 using the numeric keys and press the start key.
4. Press the start key.
   Installation of the toner is started. (Approximately 5 minutes)
   Display
   DLP SENS: Presence of toner inside developing unit (1: No/0: Yes)
   TIME(SEC): When it becomes 3 minutes before an installation end, it will count up from 0 and will become an installation end by 180.
   RESULT: Result of the installation (0: During installation/1: Installation is successful/2: Installation is failed)
   If the installation is failed, execute U132 (Replenishing toner forcibly) (see page 1-4-34).
5. After driving stops, press the stop/clear key.
6. Enter 001 using the numeric keys and press the start key.
   The machine exits the maintenance mode.

Make test copies.

1. Load paper in the cassette.
   * When fixing the paper width guides position of cassette 3 or 4, use M3 x 8 screws supplied with the machine.
2. Make test copies.

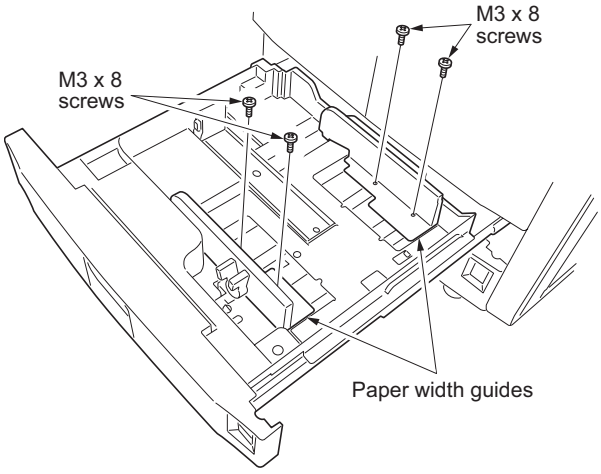


Figure 1-3-17

Attaching the language label (230 V specifications only).

1. According to need, attach the correspond language of operation unit label, MP label, DP labels and main power switch label.

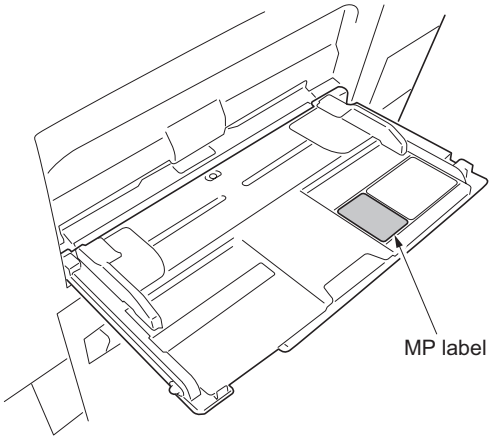
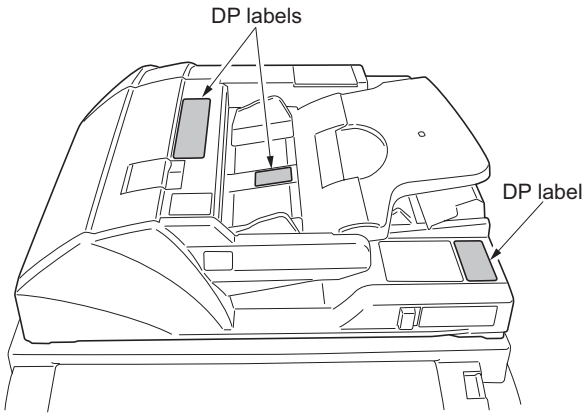


Figure 1-3-18



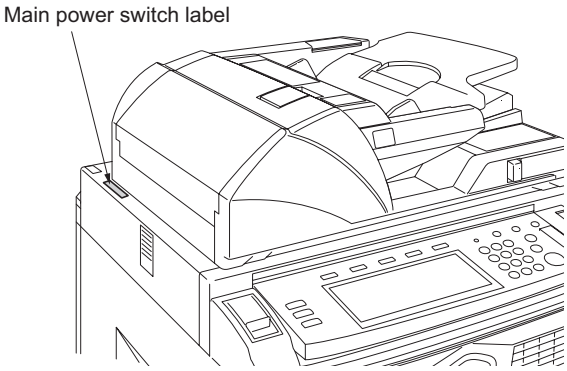


Figure 1-3-19

Installing the guide case.

1. Attach the guide case to the machine right.

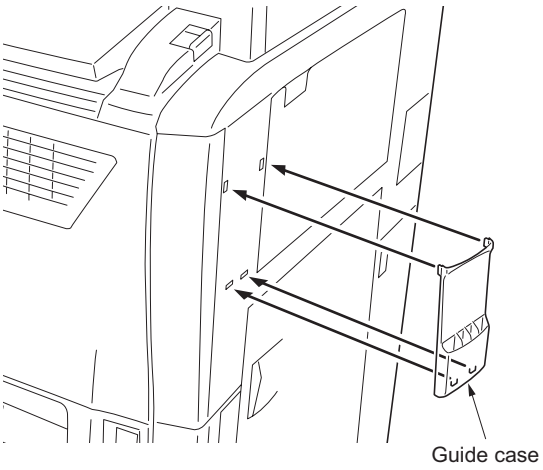


Figure 1-3-20

Completion of the machine installation.

1-3-2 Setting initial copy modes

Factory settings are as follows:

Maintenance item No.	Contents	Factory setting
U253	Switching between double and single counts	Double count for A3/11" x 17" paper only
U254	Turning auto start function ON/OFF	ON
U258	Switching copy operation at toner empty detection	SINGLE MODE
U260	Changing the copy count timing	EJECT
U263	Setting the paper ejection when copying from the DP	Face down ejection
U264	Setting the display order of the date	Month/Day/Year (inch) Day/Month/Year (metric)
U277	Setting auto application change time	30s
U281	Setting stamp mode ON/OFF	OFF
U326	Setting the black line cleaning indication	ON
U327	Setting the drawer heater ON/OFF	Drawer heater: OFF Side feeder dehumidifier heater: OFF
U330	Setting the number of sheets to enter stacking mode during sort operation	201
U331	Switching the paper ejection mode	Face-up ejection
U332	Setting the size conversion factor	Copying: 1.0 Printing: 1.0
U335	Setting the drum heater mode	ON1
U339	Setting the drum heater ON/OFF	OFF
U342	Setting the ejection restriction	ON
U343	Switching between duplex/simplex copy mode	OFF
U344	Setting the low-power mode	Energy star (120 V) GEEA (220-240 V)

1-3-3 Installing the key counter (option)

Key counter installation requires the following parts:
Key counter cover
Key counter retainer
Key counter cover retainer
Key counter mount
Key counter socket assembly
Four (4) M4 x 6 TP-A screws
One (1) M4 x 20 TP-A screw
One (1) M6 x 6 TP-A screw
One (1) M4 x 30 binding screw
Two (2) M3 x 6 screw
One (1) M3 bronze nut

- Before installing the key counter, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
  Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.

Procedure

1. Fit the key counter socket assembly to the key counter retainer using the two screws and nut.
2. Fit the key counter mount to the key counter cover using the two screws, and attach the key counter retainer to the mount using the two screws.

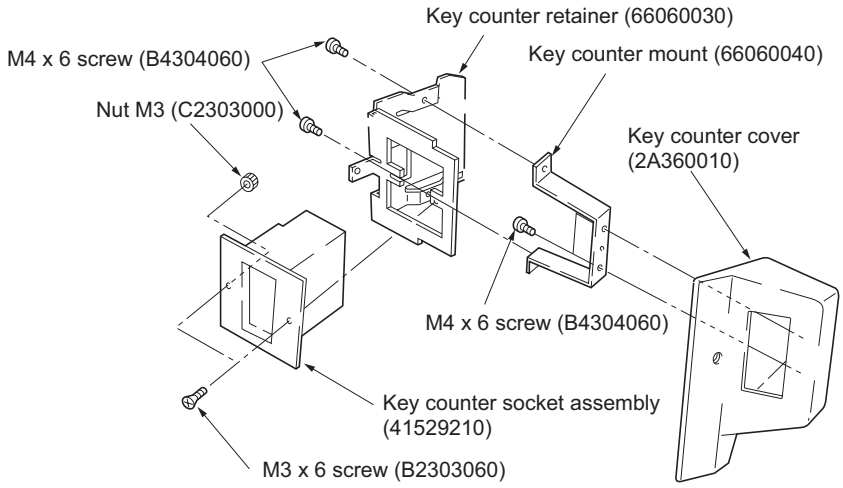


Figure 1-3-21

3. Cut out the aperture plate on the middle right cover using nippers.
4. Pass the 4-pin connector of the key counter through the apertures in the key counter cover retainer and middle right cover, and insert into the 4-pin connector inside the machine.
5. Seat the projection of the key counter cover retainer in the aperture in the middle right cover, and fasten them both to the machine using the two screws.
6. Fit the key counter cover with the key counter socket assembly inserted to the key counter cover retainer on the machine using the screw.

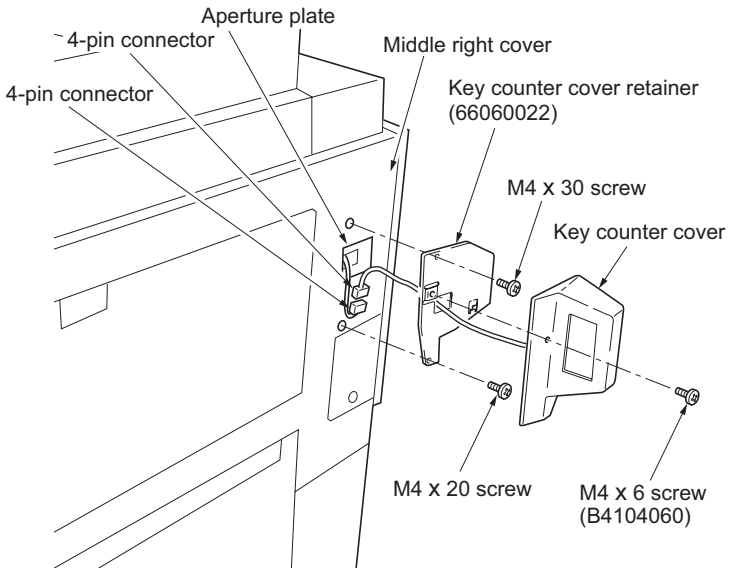


Figure 1-3-22

7. Insert the key counter into the key counter socket assembly.
8. Connect the power cord and turn the main power switch on and
9. Enter the maintenance mode to run maintenance item U204 and select [KEY-COUNTER].
10. Exit the maintenance mode.
11. Check that the message requesting the key counter to be inserted is displayed when the key counter is pulled out.
12. Check that the counter counts up as copies are made.

1-3-4 Installing the document finisher (option)

- Output connector of the main machine is non-LPS. Please use the item below interconnecting cable.
  Circuit type: Non-LPS
  Circuit specs.: 24 V DC

- Before installing the document finisher, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
  Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.

Procedure

1. Install the connecting plate using the two M4 x 20 TP tap tight S screws on the left cover.

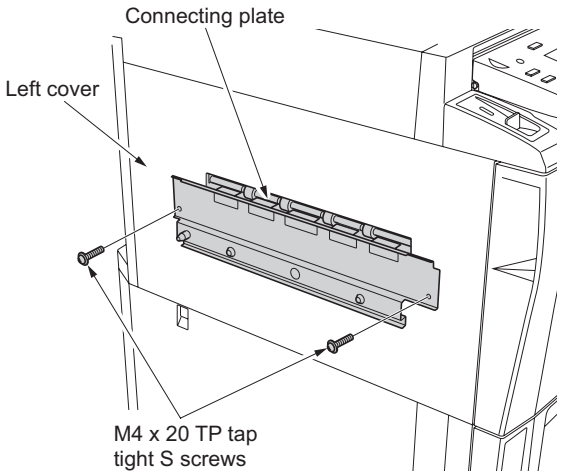


Figure 1-3-23

2. Fix two grounding plate A with the M3 x 14 tap tight S screw to the lower left cover of the machine.

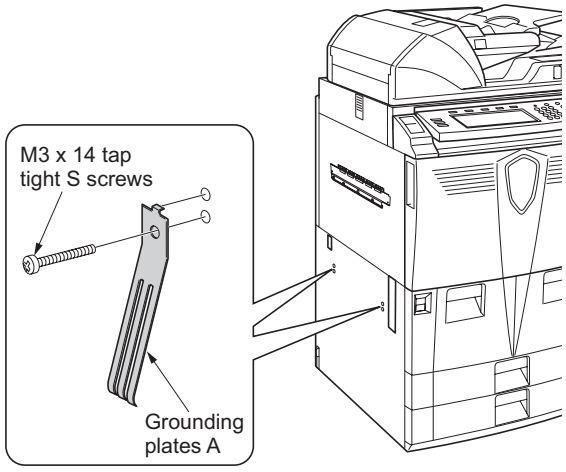


Figure 1-3-24

3. As shown in the figure, affix the sponge to the top cover of the finisher.
   Aligning the bottom of the sponge with the bottom of the top cover, affix the sponge in the center of the cover.

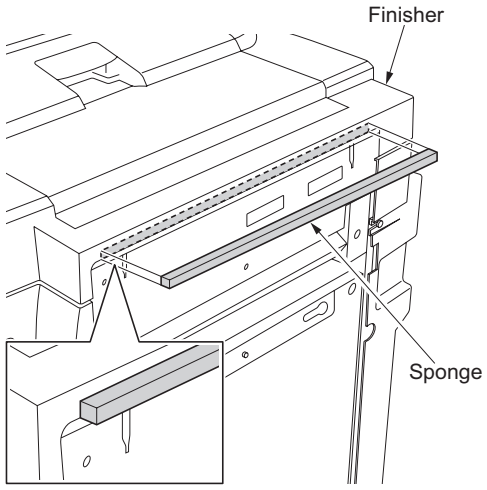


Figure 1-3-25

4. Fix two grounding plate B with the M4 x 8 tap tight S screw to the front/back hooks of the finisher.

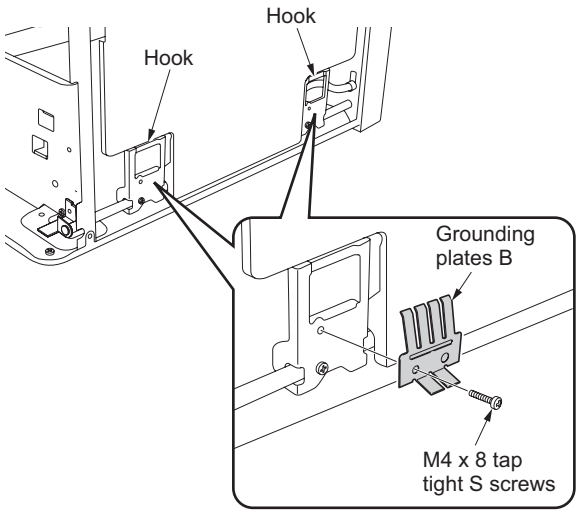


Figure 1-3-26

5. Open the front cover.
6. Remove the screw, raise the connecting lever, and lower the hooks.

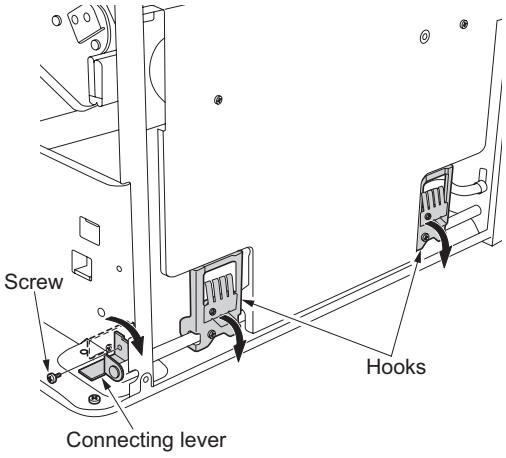


Figure 1-3-27

7. Remove the screw and pull out the connecting rail at the upper part of the finisher.

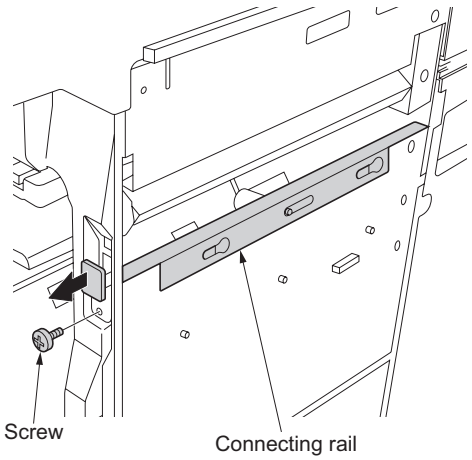


Figure 1-3-28

8. Cut out the hole covers at two locations on the machine.
9. Position the finisher and machine so the long pin of the connecting plate aligns with the back hole of the finisher, and the two short pins align with the holes of the connecting rail.
10. Hooking the hooks onto the brackets at the bottom of the machine, connect the finisher to the machine.

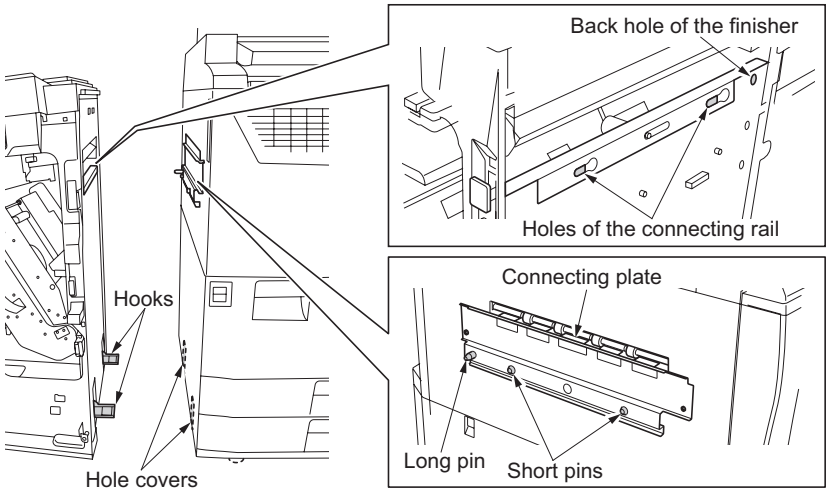


Figure 1-3-29

11. Pressing down on the connecting rail, secure it with the screw you removed in step 7.

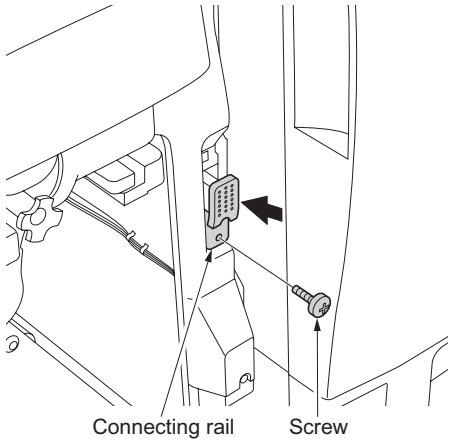


Figure 1-3-30

12. Pressing down on the link lever, secure it with the screw removed in step 6.

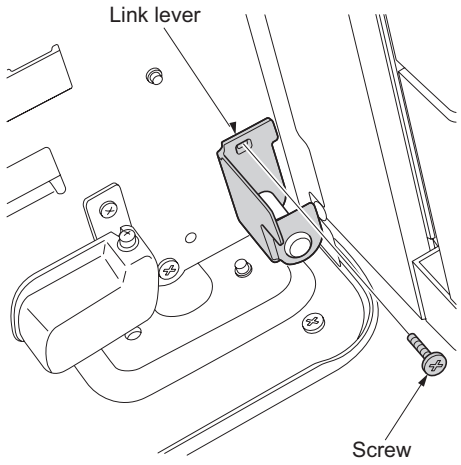


Figure 1-3-31

13. Remove the tape. Remove the four blue screws locking each of the two separate retainers to the intermediate tray and detach both retainers.
14. Pull out the intermediate tray.

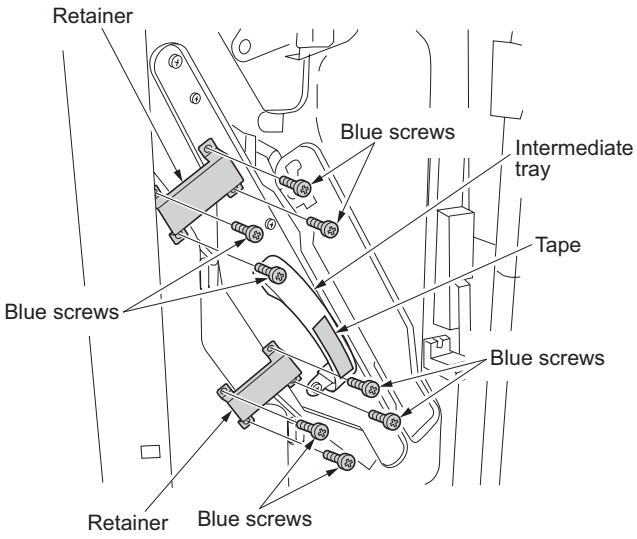


Figure 1-3-32

15. Remove the tape.

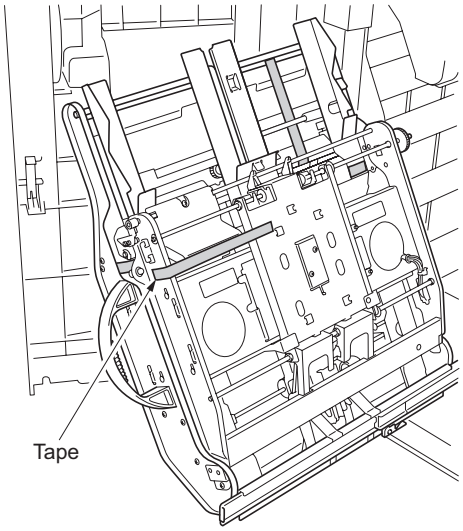


Figure 1-3-33

16. Remove the tape inside the finisher.

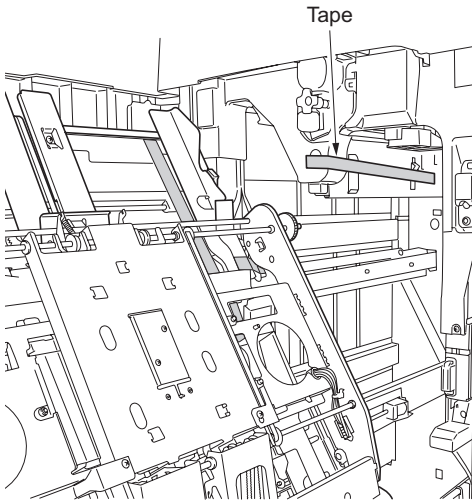


Figure 1-3-34

17. Raise the release handle to open the intermediate tray and then remove the four tapes.

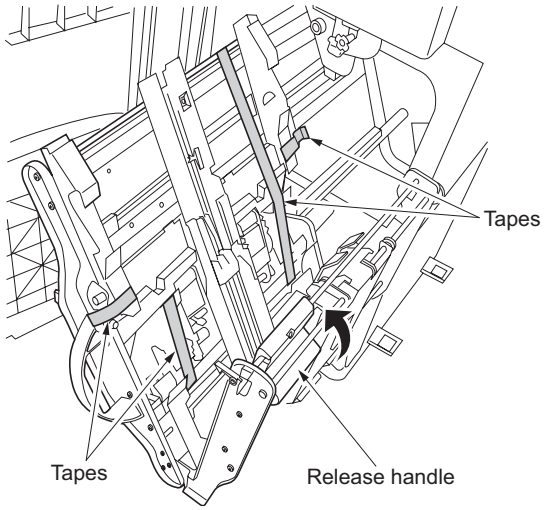


Figure 1-3-35

18. Load two staple cartridges into the staple holders and press down on them until they lock securely into place.
19. Close the intermediate tray, return it to its original position, and then close the front cover.

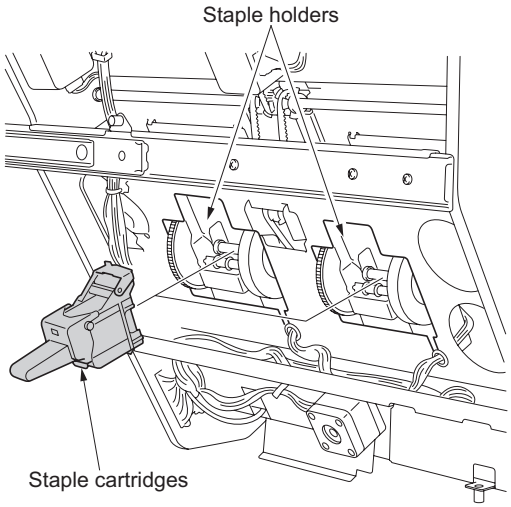


Figure 1-3-36

20. Insert the two nuts into the main tray.
21. Secure the main tray with two pins.
22. Install the sub tray by inserting it from above into the hole on the finisher.

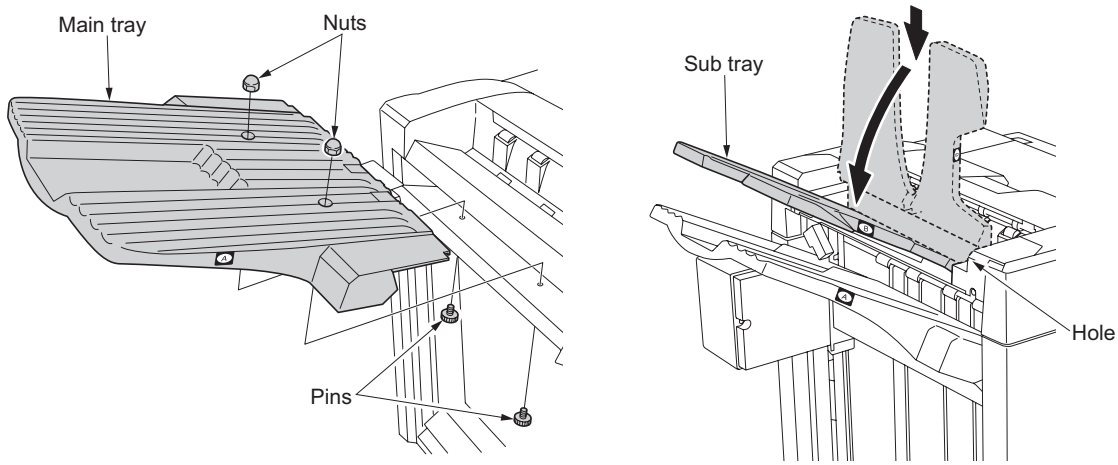


Figure 1-3-37

23. Remove the screw and then remove the signal cable cover.

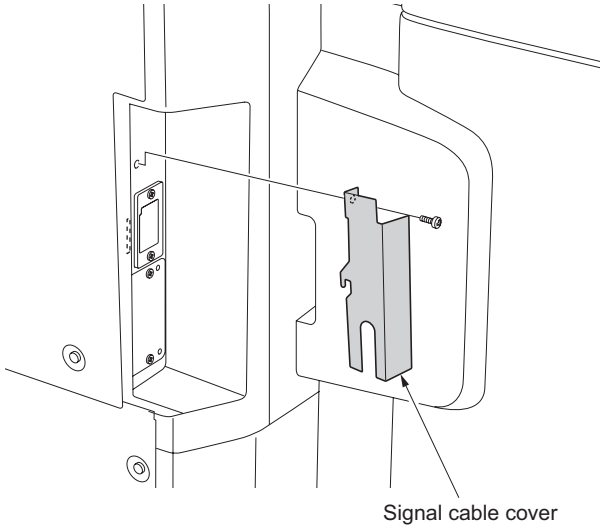


Figure 1-3-38

24. Connect the signal cable to the connector of the machine.

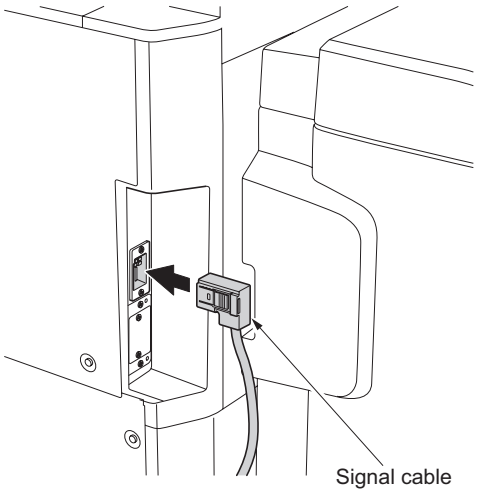


Figure 1-3-39

25. Refit the signal cable cover using the screw. Pass the signal cable through a cut of the signal cable cover as shown in the figure.

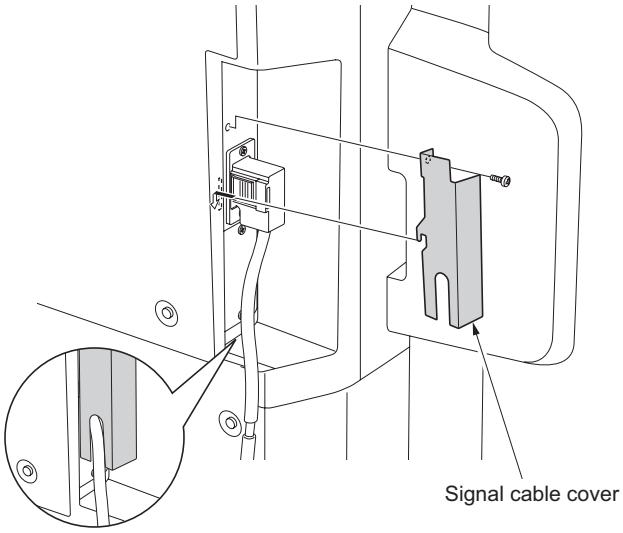


Figure 1-3-40

26. Remove the screw from the lower rear cover of the machine.
27. Fit the clamp on non-covered part of the signal cable to secure the cable to the lower rear cover with the M3 x 10 tap tight S screw.
28. Plug the machine's power cable into a wall outlet and turn the machine on from the main power switch.

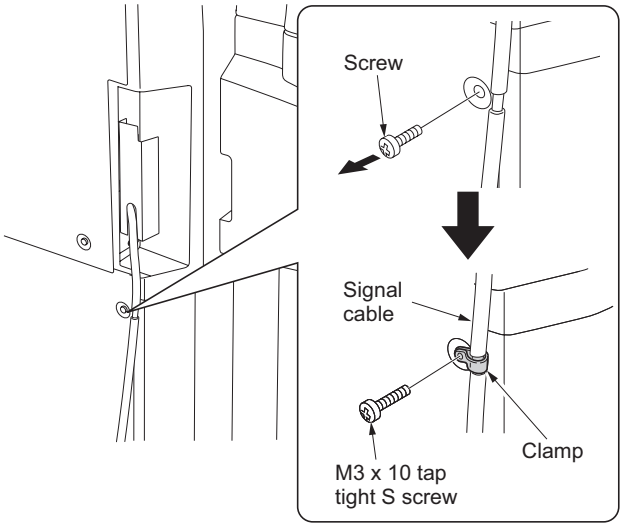


Figure 1-3-41

[Correcting paper curling]

1. Set the machine in the non-sort mode and run paper through the machine to make a test copy.
2. Check if the paper that is ejected from the finisher is curled. If it is, make the following adjustment.

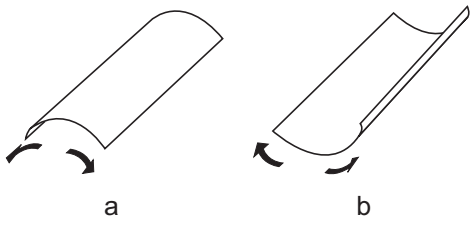


Figure 1-3-42

- If the paper curls downward (a of figure 1-3-42)

1. Open the front cover.
2. Rotate the lower lever by one mark in the direction of the higher numbers.
   There are 5 marks.
3. Close the front cover.
4. Run paper through the machine and check if it is still curled downward.
5. Repeat steps 1 to 4 until the ejected paper does not curl downward anymore.

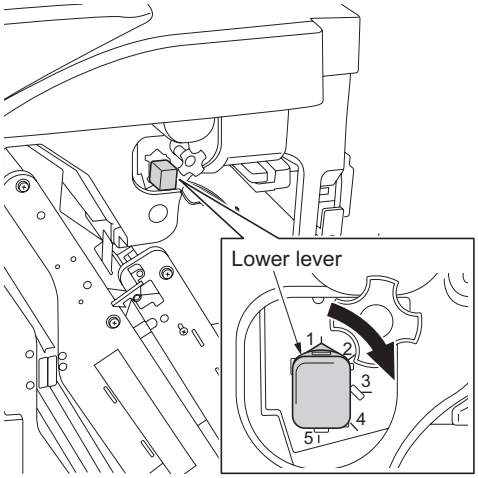


Figure 1-3-43

- If the paper curls upward (b of figure 1-3-42)

1. Open the front cover.
2. Remove the three screws locking down the inner left cover followed by the cover.

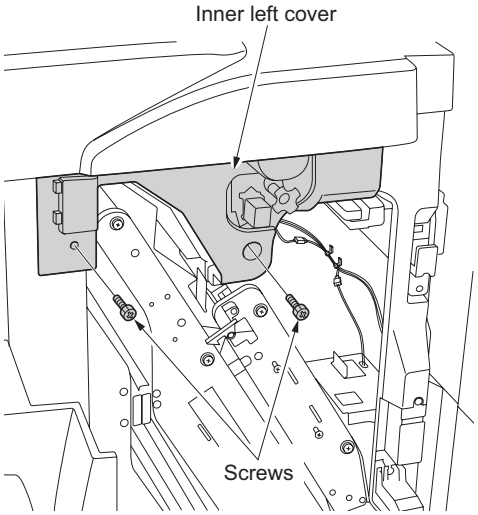


Figure 1-3-44

3. Rotate the upper lever by one mark in the direction of the higher numbers.
   There are 5 marks.
4. Close the front cover.
5. Run paper through the machine and check if it is still curled upward.
6. Repeat steps 1 to 5 until the ejected paper does not curl upward anymore.
7. When the correction is completed, reattach the inner left cover.

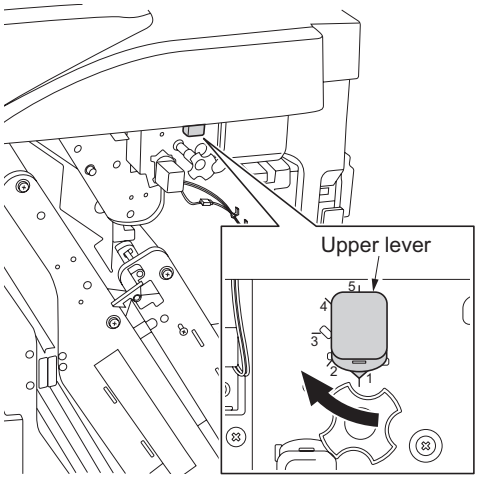


Figure 1-3-45

[Correcting centerfold-stapling]

1. Print test copies using various paper types.
   Configure the printer for saddle stapling and output to the main tray.
   Supported paper sizes for stapling: A3, A4R, B4, 11" x 17", 8 1/2" x 11", 8 1/2" x 14"
2. Unfold the copied paper that has been centerfold-stapled, with the inside faced down as shown in the illustration. Check that the paper is stapled at the center.
3. If the staple position is off, enter maintenance mode and run U248 to perform the following adjustment for each paper size.
4. Select [SADDLE STAPLE ADJUST].
5. Set the setting value for each paper size.
   If the paper is stapled too far toward the paper eject side (as shown in a in the figure), decrease the setting value.
   If the paper is stapled too far toward the paper feed side (as shown in b in the figure), increase the setting value.
   Setting range: -10 to +10
   Initial setting: 0
   Changing the value by 1 moves the stapling position by approximately 0.55 mm (reference value).
6. Exit the maintenance mode.

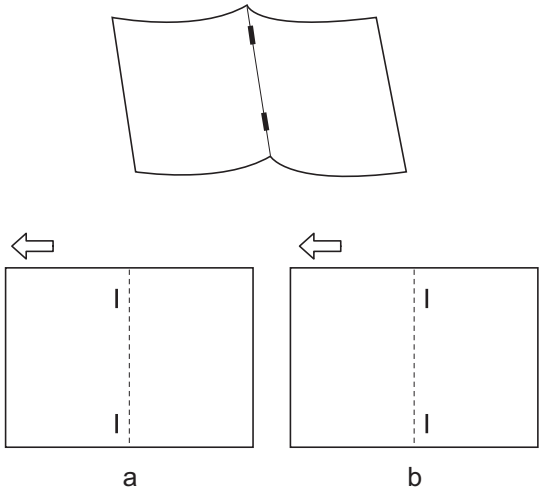


Figure 1-3-46

1-3-5 Installing the side feeder (option)

- Output connector of the main machine is non-LPS. Please use the item below interconnecting cable.
  Circuit type: Non-LPS
  Circuit specs.: 24 V DC

- Before installing the side feeder, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
  Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.

Procedure

1. Cut out the four hole covers from the right cover of the machine.
   Use nippers to trim the burrs from the holes.
2. Open the right cover.

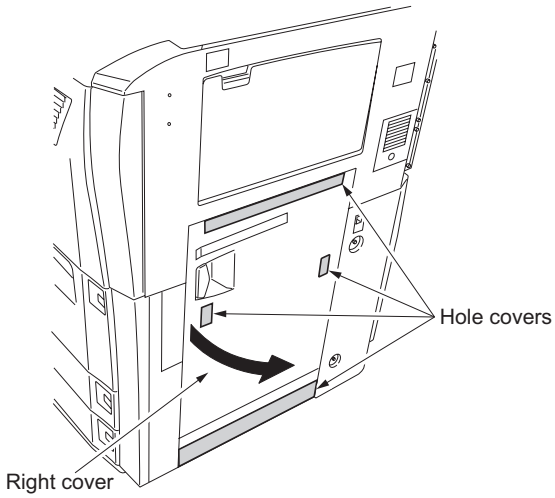


Figure 1-3-47

3. Insert one side of the guide plate into the top, and fix the plate using the M3 x 6 tap tight S screw.
4. Close the right cover.

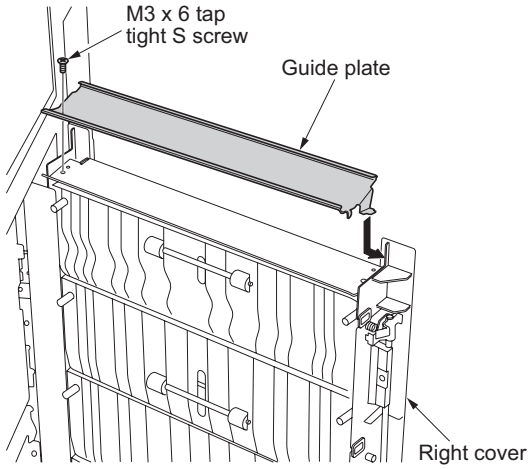


Figure 1-3-48

5. Attach the switch contact plate to the right rear lower cover using the M4 x 12 flat-head screw.

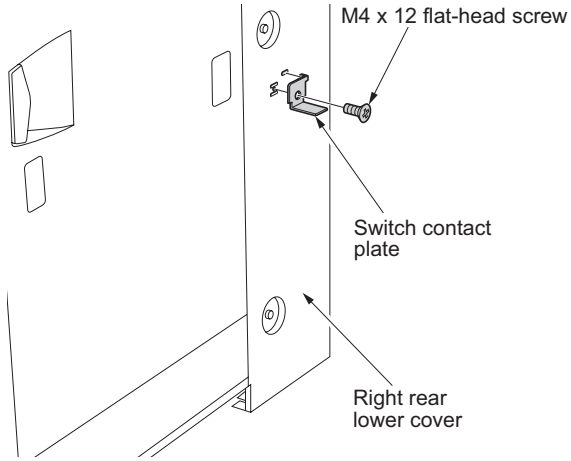


Figure 1-3-49

6. Pull out the fixing plate of the side feeder, and insert it into the bottom of the machine's right cover.
7. Open the right cover.

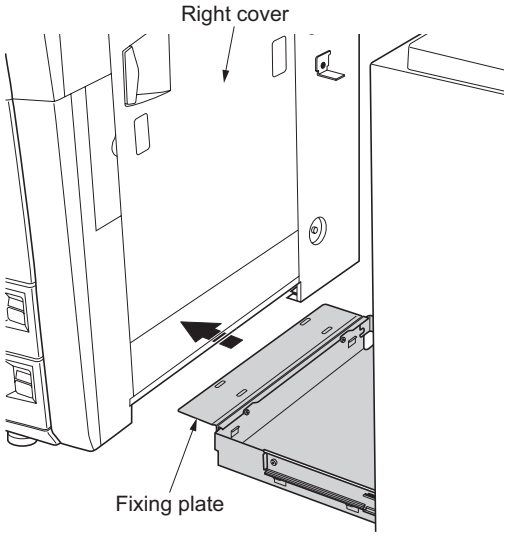


Figure 1-3-50

8. Install two M4 x 6 TP screws in the long holes of the fixing plate.
   Align the V-groove of the fixing plate with the center of the guide of the machine.

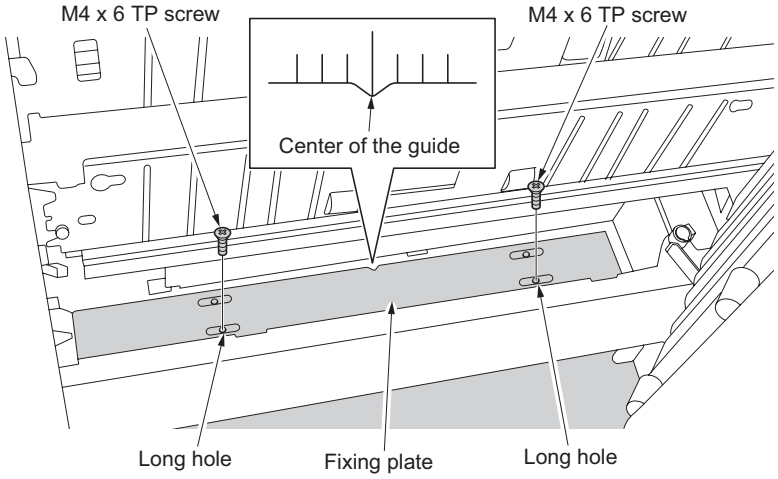


Figure 1-3-51

9. Open the side feeder's right cover and top cover, remove the two screws, and remove the anchor bracket.

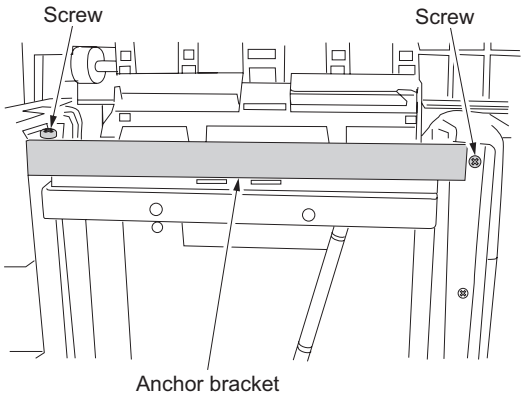


Figure 1-3-52

10. Set the side feeder on the machine, and connect its signal cable to the connector on the back of the machine.
11. Attach clamp to the lower rear cover of the machine to fasten signal cable.

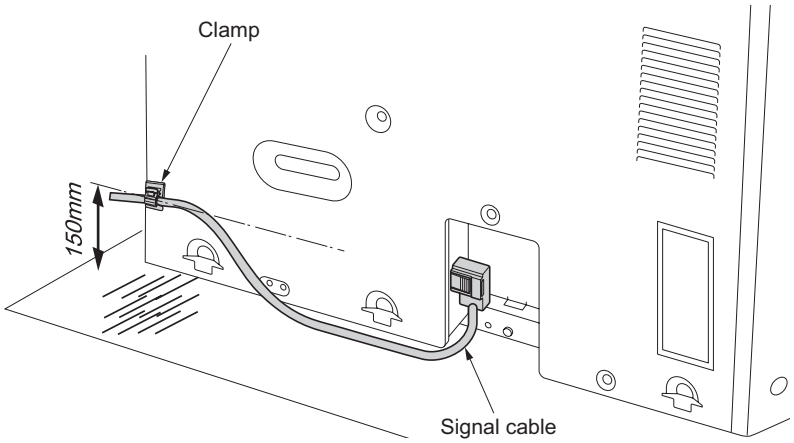


Figure 1-3-53

[Correcting the inclination]

- If the side feeder is not level, perform the following steps to adjust its inclination.

1. Loosen the two adjustment screws.
2. Slide the fixing plate in the direction indicated by the arrow, and then tighten the adjusting screws.
3. Repeat steps 1 and 2 until the upper and lower spaces (A) between the machine and the side feeder are uniform.

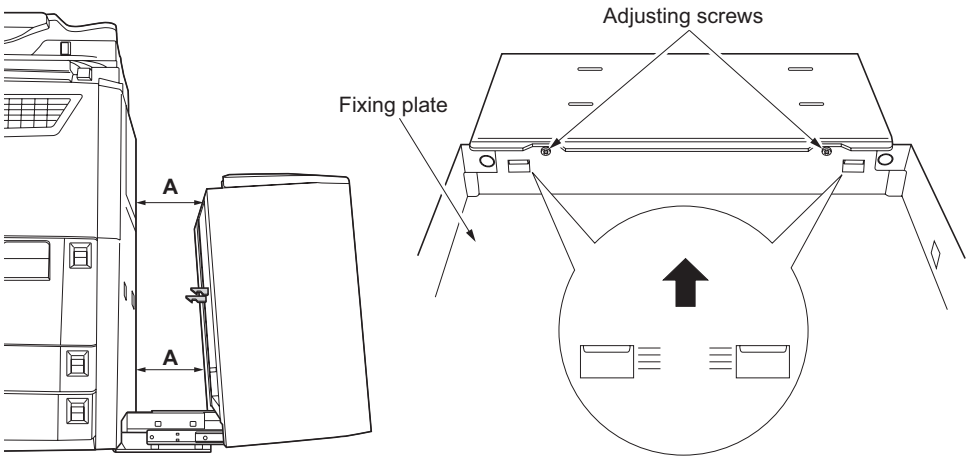


Figure 1-3-54

[Adjusting the center line]

1. Plug the machine into a power outlet, and turn on its main power switch.
2. Enter maintenance mode and run U034 (Adjusting the print start timing).
3. Press the interrupt key, select the side feeder for the test print mode, and then print a test pattern.
4. Measure the offset L (mm) between the test pattern center (d) and the paper center (c). Next loosen the two fixing plate screws, slide the V-groove of the fixing plate from the L-guide by the same amount, and then re-tighten the screws.
   In the case of (a), slide V-groove of the fixing plate towards the front.
   In the case of (b), slide V-groove of the fixing plate towards the back.

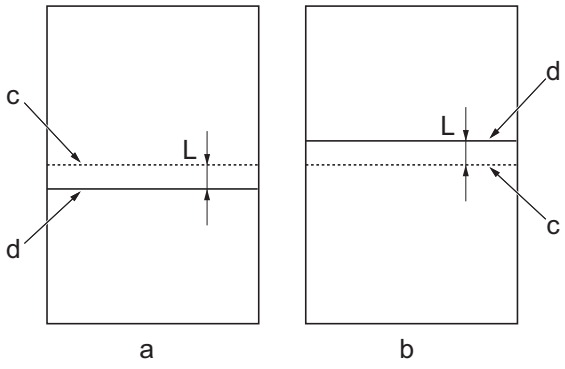


Figure 1-3-55

1-3-6 Installing the printer kit (option)

- Before installing the printer kit, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
  Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.

Procedure

Install the printer board.

1. Remove three screws and then remove the cover.

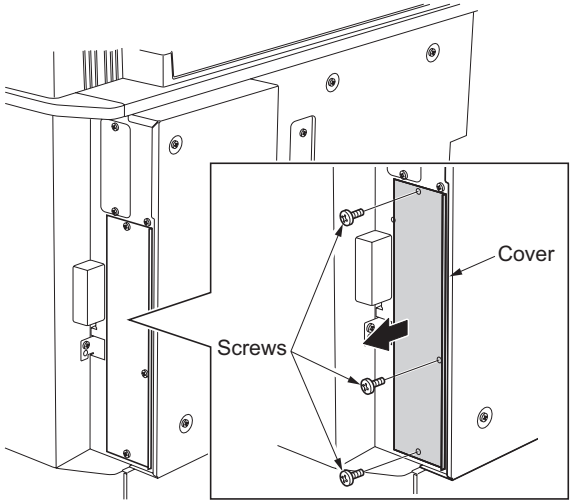


Figure 1-3-56

2. Slide in the printer board along the rails, and then secure it with the three screws and two M4 x 8 tap tight S screws.

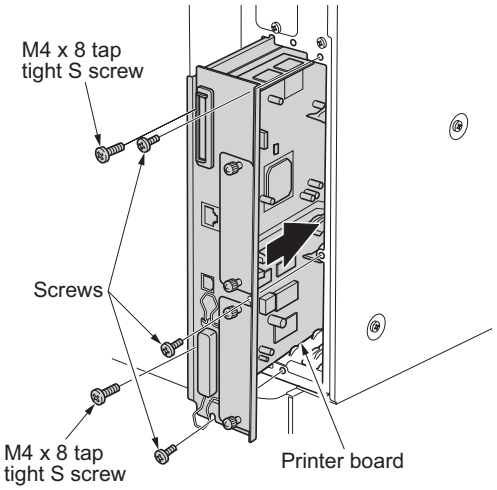


Figure 1-3-57

Install the optional printer network kit.

1. Remove the two pins, and then remove the OPT1 cover.
2. Slide in the printer network kit along the rails, and then secure it with the two pins.

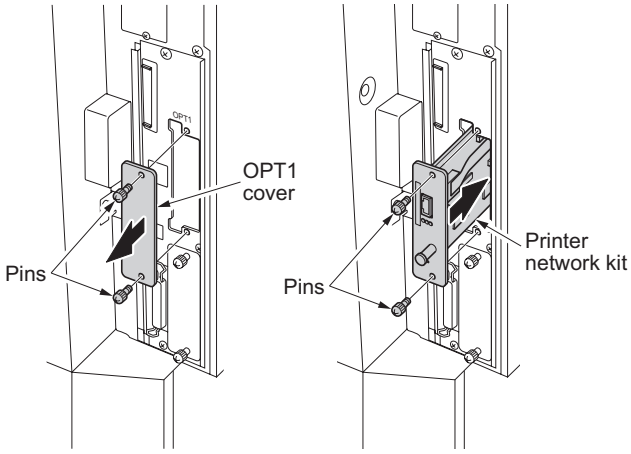


Figure 1-3-58

Install the optional hard disk.

1. Remove the two pins, and then remove the HDD cover.
2. Slide in the hard disk along the rails, and then secure it with the two pins.
   After installation, the hard disk must be formatted. Turn the main power switch on, go to the printer screen and select the [Printer Menu] followed by [Hard Disk] and then [Format].

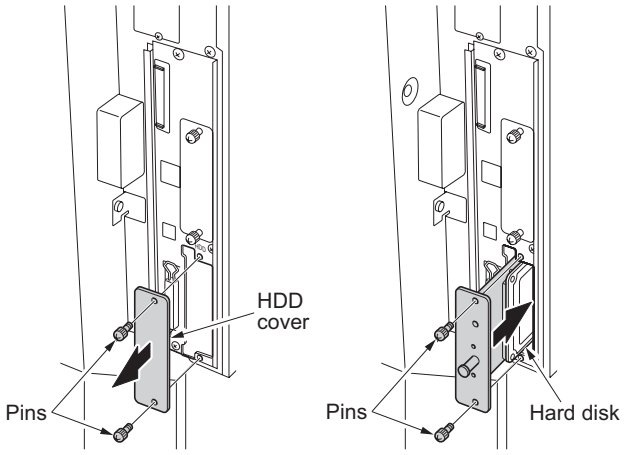


Figure 1-3-59

Installing the optional serial interface

1. Remove the five screws and the two pins, remove the printer system, and remove the cover.
2. Plug the 10-pin connector of the serial interface into YC8 of the printer board, and pass the power cord through cutout in the board.
3. Secure the serial interface to the printer board using the two pins.
4. Slide in the printer board along the rails, and then secure it with the five screws.
   Take care that the power cord does not come into contact the frame edge.

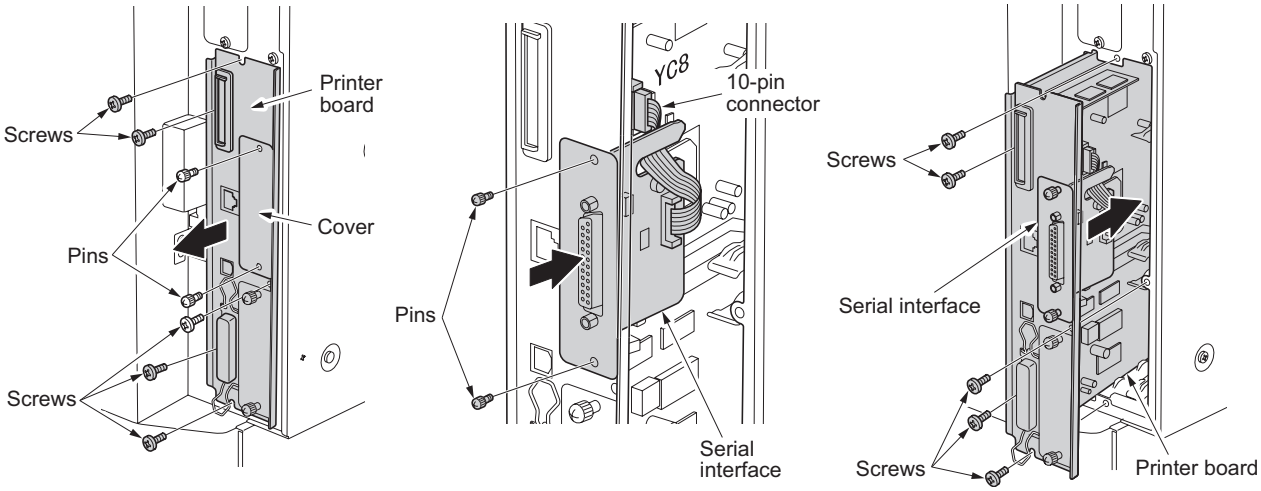


Figure 1-3-60

Installing the optional memory DIMM

1. Remove the printer board, and insert the optional memory DIMM firmly into either of the memory slots.
2. Push the DIMM firmly into the slot so that the two hooks (one hook at each end of the slot) snap closed.
3. The board provides two DIMM slots, and can accept up to two optional DIMMs. If installing a single DIMM, you can use either slot.

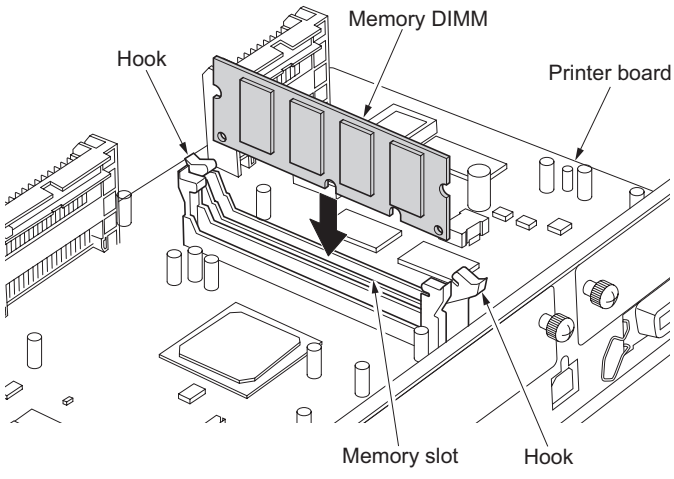


Figure 1-3-61

- Remove the screw of the lower rear cover. Fasten all the cables with the clamp and tighten the M3 screw to fix the clamp. Make sure that the clamp is facing as shown in the figure.

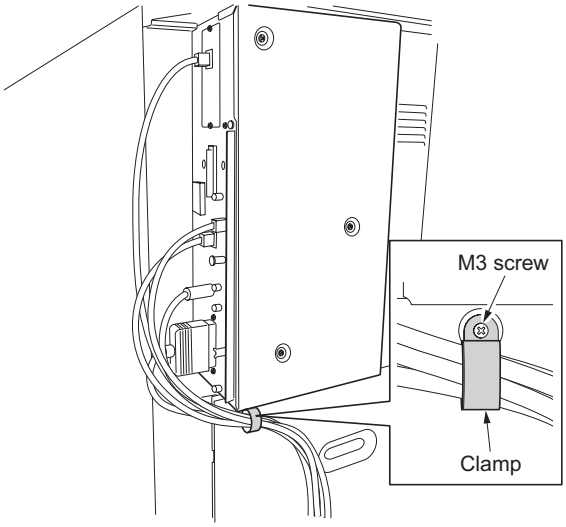


Figure 1-3-62

1-3-7 Installing the scanner kit (option)

- Before installing the scanner kit, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet. Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.

Procedure

1. Remove the two screws, and then remove the hole cover.
2. Remove the nine screws, and then remove the rear middle cover.

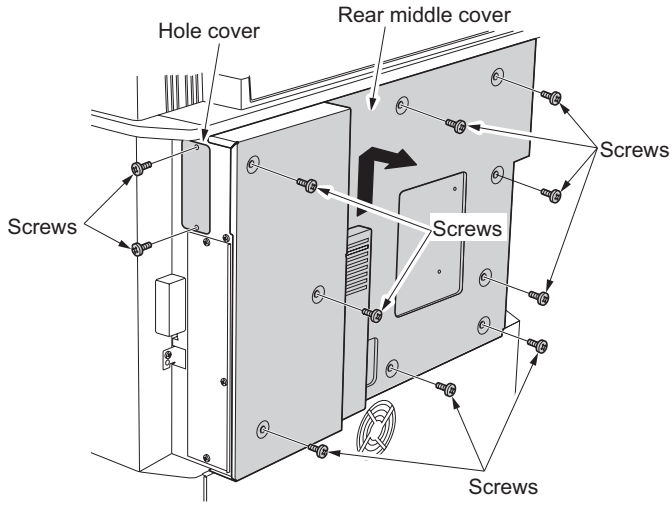


Figure 1-3-63

3. Remove the eight screws, and then remove the right sequence cover.

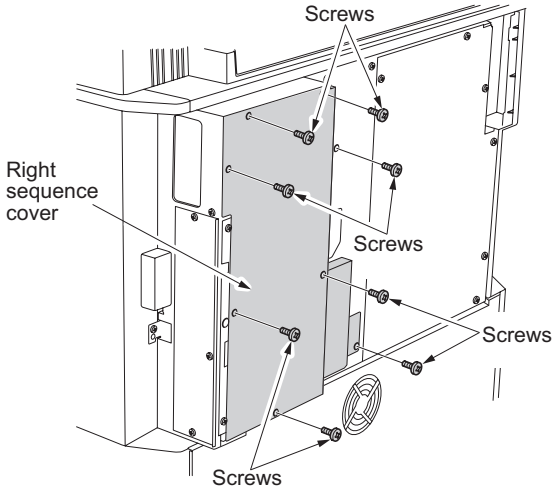


Figure 1-3-64

4. Firmly push connector CN5 on the scanner board all the way into connector YC3 on the main PWB.
5. Fasten the scanner board to the controller-box cover with 2 screws.
6. Return the right sequence cover and rear middle cover to their original positions.

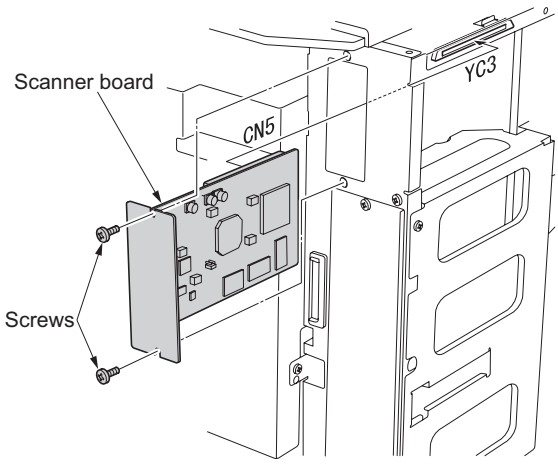


Figure 1-3-65

- Remove the screw of the lower rear cover. Fasten all the cables with the clamp and tighten the M3 screw to fix the clamp. Make sure that the clamp is facing as shown in the figure.

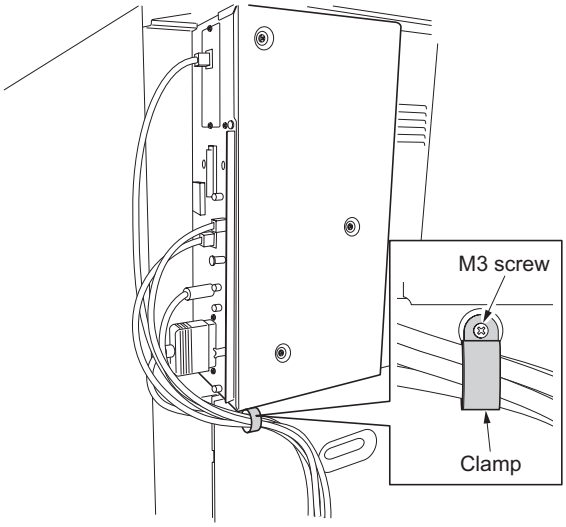


Figure 1-3-66

1-3-8 Installing the security kit (option)

- Before installing the security kit, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
  Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
- If the machine is using a hard disk already, installing the security kit will not erase hard disk data automatically.
  To delete data, you need to consult your customer. Refer to the operation guide to format the hard disk for deletion of the data.

Procedure

1. Remove the nine screws, and then remove the rear middle cover.

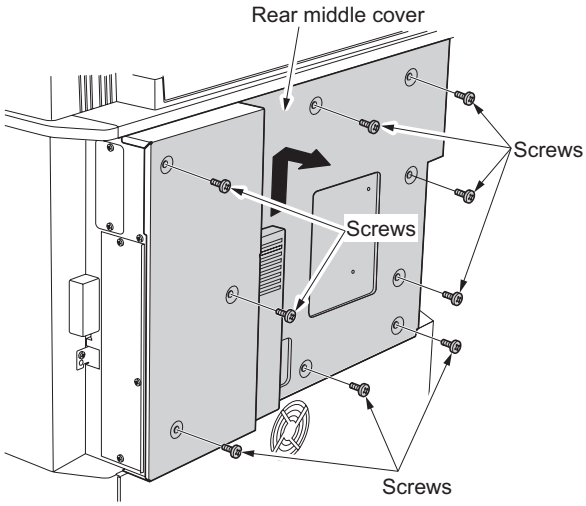


Figure 1-3-67

2. Remove the eight screws, and then remove the right sequence cover.

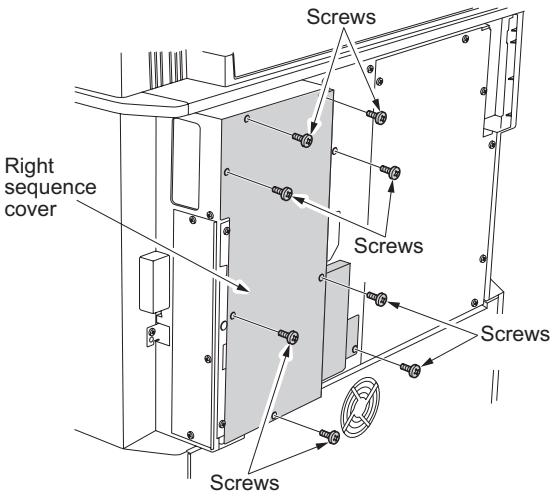


Figure 1-3-68

3. Insert the board support into the elongate hole. Secure the board support by rotating either clockwise/counterclockwise for 90 degrees. Be careful not to pinch the power cable.
4. Connect the security board to the YC27 connector of the main PWB. Secure it with the board support.
5. Return the right sequence cover and rear middle cover to their original positions.

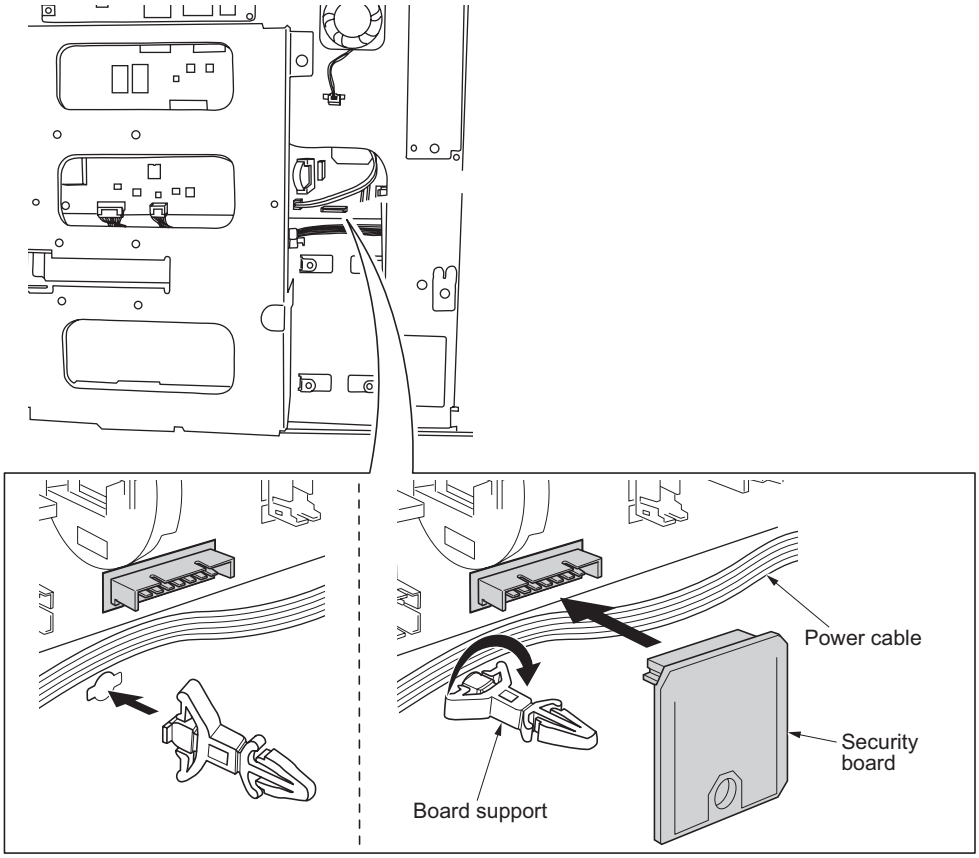


Figure 1-3-69

6. Plug the machine into a power outlet, and turn on its main power switch.
7. Confirm that the hard disk icon is displayed on (the right upper corner of) the touch panel.

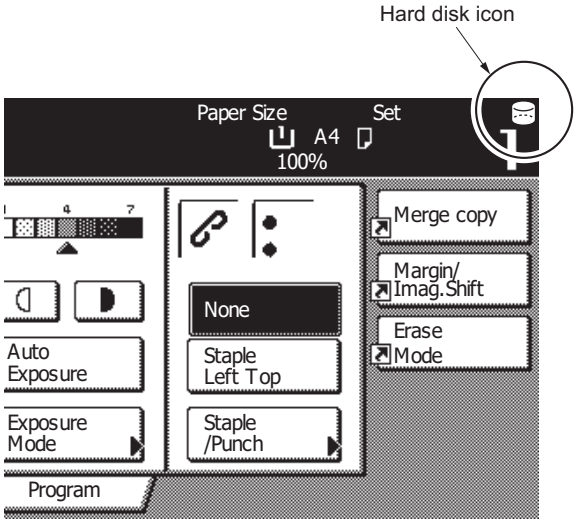
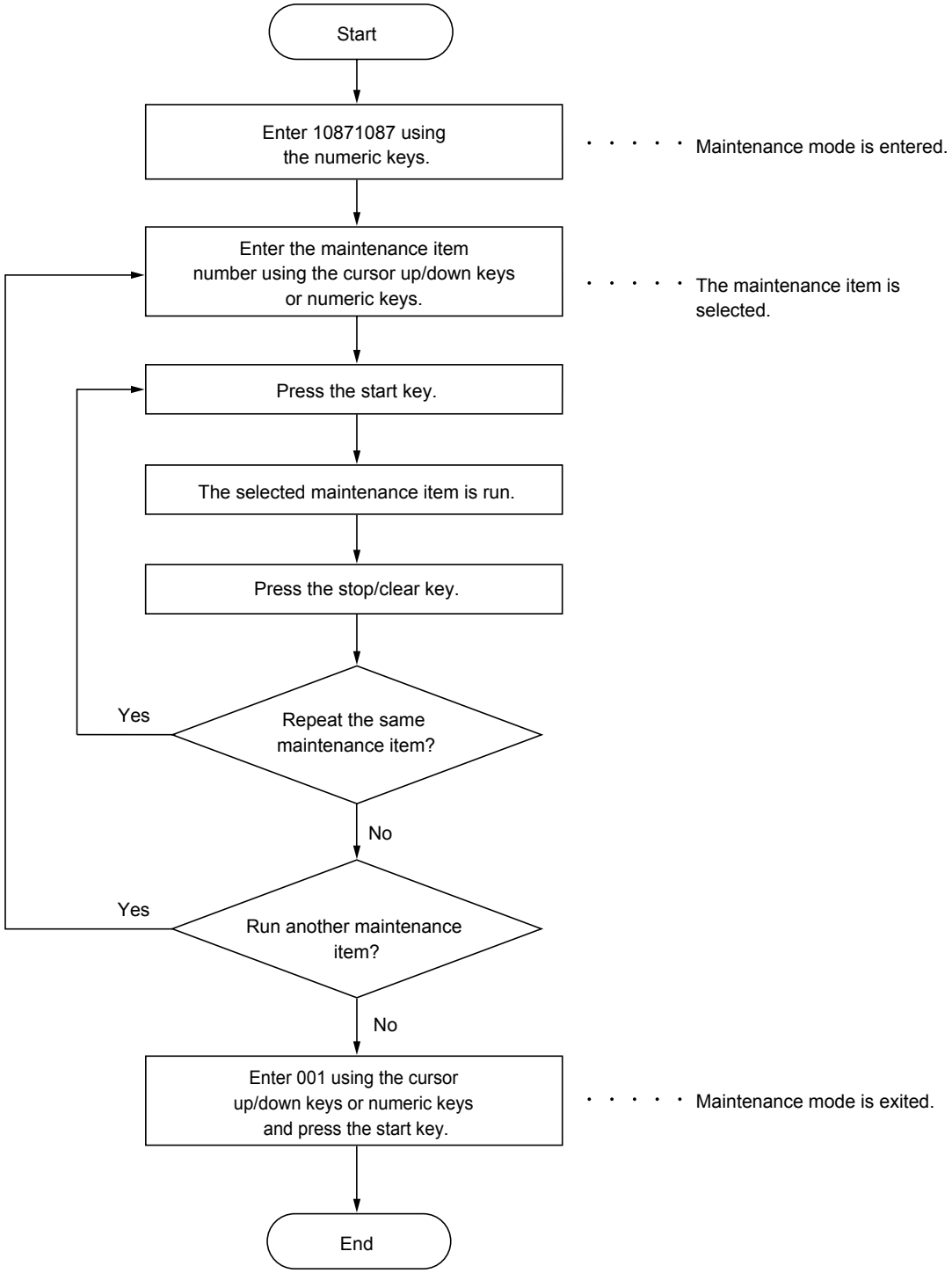


Figure 1-3-70

1-4-1 Maintenance mode

The copier is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item


Start
Enter 10871087 using the numeric keys.
Maintenance mode is entered.
Enter the maintenance item number using the cursor up/down keys or numeric keys.
The maintenance item is selected.
Press the start key.
The selected maintenance item is run.
Press the stop/clear key.
Repeat the same maintenance item?
Yes
No
Run another maintenance item?
Yes
No
Enter 001 using the cursor up/down keys or numeric keys and press the start key.
Maintenance mode is exited.
End

(2) Maintenance mode item list

Section	Item No.	Content of maintenance item	Initial setting*
General	U000	Printing out an own-status report	-
	U001	Exiting the maintenance mode	-
	U002	Setting the factory default data	-
	U003	Setting the service telephone number	**********
	U004	Displaying the machine number	-
	U005	Copying without paper	-
	U018	Displaying the ROM checksum	-
	U019	Displaying the ROM version	-
Initialization	U020	Initializing all data	-
	U021	Memory initializing	-
	U022	Initializing backup memory	-
	U024	HDD formatting	-
	U026	Evacuation of backup data	-
	U027	Return of backup data	-
Drive, paper feed, paper conveying and cooling systems	U030	Checking the operation of the motors	-
	U031	Checking sensors for paper conveying	-
	U033	Checking the operation of the solenoids	-
	U034	Adjusting the print start timing Leading edge adjustment Cassette MP tray Center line adjustment	 0/0/0/0 0 0/0
	U035	Setting the printing area for folio paper Length/Width	 330/210
	U037	Checking the operation of the fan motors	-
	U051	Adjusting the amount of slack in the paper Plain paper Amount of slack for low speed conveying Amount of slack for high speed conveying Amount of slack for duplex low speed feed Amount of slack for duplex high speed feed Amount of slack for cassette 1 feed Amount of slack for MP feed Thick paper Amount of slack for low speed conveying Amount of slack for high speed conveying Amount of slack for cassette 1 feed Amount of slack for MP feed	 3 3 3 3 3 3 0 0 0 0
	U052	Adjusting duplex	-2
	U053	Setting the adjustment of the motor speed Interlock setting Drive motor, transfer motor, fuser motor, registration motor and feed motor speed adjustment Polygon motor speed adjustment Separate setting Drive motor/Transfer motor/Fuser motor/Registration motor/ Polygon motor/Feed motor Thick paper setting Transfer motor/Fuser motor/Registration motor/Feed motor	 0/3/1/1/1 (80 cpm) 0/3/1/-1/-1 (60 cpm) 0 0/3/1/1/0/1 (80 cpm) 0/3/1/-1/0/-1 (60 cpm) 5/0/0/0 (80 cpm) 4/0/0/0 (60 cpm)
	U054	Adjusting the amount of slack in the paper	0
	U059	Setting fan motor mode	OFF

*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Optical	U060	Adjusting the scanner input properties	12/11
	U061	Checking the operation of the exposure lamps	-
	U063	Adjusting the shading position	0
	U064	Adjusting the CCD level	4
	U065	Adjusting the scanning magnification	0/0
	U066	Adjusting the scanner leading edge registration	10/0
	U067	Adjusting the optical axis (center line)	0/0
	U068	Adjusting the scanning position for originals from the DP	12
	U070	Adjusting the DP magnification	0/0/0
	U071	Adjusting the DP scanning timing DP leading edge registration DP trailing edge registration	 0/0/0 0/0
	U072	Adjusting the DP original center line 1 sided 2 sided front Rotate copying	 0 0 0
	U073	Checking the scanner operation	-
	U074	Adjusting the DP input light luminosity	0
	U076	Executing DP automatic adjustment	-
	U080	Adjusting exposure in toner economy mode	-5
	U087	Setting DP reading position modification operation	200
	U089	Outputting the MIP-PG pattern	-
	U092	Adjusting the scanner automatically	-
	U093	Adjusting the exposure density gradient Text and photo mode Text mode Photo mode	 0/0 0/0 0/0
	U099	Adjusting original size detection ORIGINAL LIGHT SOURCE WAIT TIME A4R AREA	 72 72 150 240
High voltage	U100	Adjusting the surface potential	82 20 0
	U101	Setting the other high voltages Developing bias control voltage Transfer control voltage Reverse transfer control voltage VPP setting value	 117 185 (80 cpm)/135 (60 cpm) 200 145
	U102	Setting the cleaning interval for the main charger	5 OFF
	U110	Checking the drum count	-
	U111	Checking/clearing the drum drive time	-
	U127	Checking/clearing the transfer belt count	-
	U129	Adjusting the transfer timing Transfer charging output ON timing for plain paper Transfer charging output OFF timing for plain paper Transfer charging output ON timing for thin paper Transfer charging output OFF timing for thin paper Transfer charging output ON timing for thick paper Transfer charging output OFF timing for thick paper	 -1.5 (80 cpm)/-4.0 (60 cpm) 0 (80 cpm)/13.0 (60 cpm) 0 (80 cpm)/-2.5 (60 cpm) 0 (80 cpm)/13.0 (60 cpm) -10.0 0 (80 cpm)/13.0 (60 cpm)
Developing	U130	Initial setting for the developer	0
	U132	Replenishing toner forcibly	-

*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Developing	U135	Checking toner motor operation	-
	U137	Checking the toner level detection sensor	-
	U147	Setting for toner applying operation	6 500
	U152	Setting developing motor mode	ON
	U157	Checking the developing drive time	-
	U158	Checking the developing count	-
Fuser and cleaning	U161	Setting the fuser control temperature Control temperature during copying Primary stabilization fuser temperature Secondary stabilization fuser temperature Aging time after secondary stabilization Control temperature adjustment in duplex copying Time from power on to stabilization of fusing Control temperature adjustment in duplex copying using A4/ Letter/B5 size paper Control temperature adjustment using small size paper Control temperature adjustment when the fuser heater temperature goes low	200 (80 cpm)/195 (60 cpm) 175 (120 V)/140 (220-240 V) 185 60 -10 26 0 0 0
	U162	Stabilizing fuser forcibly	-
	U163	Resetting the fuser problem data	-
	U167	Checking/clearing the fuser count	-
	U180	Checking the cleaning count	-
	U194	Setting the fuser web drive	30
	U196	Turning the fuser heater on	-
	U198	Setting the fuser phase control	OFF (120 V) ON (220-240 V)
	U199	Displaying fuser heater temperature	-
Operation panel/ Optional units	U200	Turning all LEDs on	-
	U201	Initializing the touch panel	-
	U202	Setting the KMAS host monitoring system	-
	U203	Operating the DP separately	-
	U204	Setting the presence or absence of a key card or key counter	OFF
	U206	Setting the presence or absence of the coin vender	OFF
	U207	Checking the keys on the operation panel	-
	U208	Setting the paper size for the feeders	11 x 8.5 (inch) A4 (metric)
	U212	Setting the feeder lift operation	SIDE
	U234	Setting punch destination	NOTHING
	U235	Setting output tray initialize mode	HP ON
	U237	Adjusting finisher stack quantity	0
	U240	Checking the operation of the finisher	-
	U241	Checking the operation of the switches of the finisher	-
	U243	Checking the operation of the DP motors	-
	U244	Checking the operation of the DP switches	-
	U245	Checking messages	-
	U247	Setting the paper feed device	-

*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Operation panel/ Optional units	U248	Changing the paper ejection device settings Adjustment of registration stop timing in punch mode Adjustment of the paper stop timing in punch mode Punch-hole scrap count Setting the booklet stapling position Setting the center folding position Punch limit	 0 0 - 0/0/0 0/0/0 100000
Mode setting	U250	Setting the maintenance cycle	-
	U251	Checking/clearing the maintenance count	-
	U252	Setting the destination	-
	U253	Switching between double and single counts	Double count
	U254	Turning the auto start function ON/OFF	ON
	U258	Switching copy operation at toner empty detection	-
	U260	Selecting the timing for copy counting	Eject
	U263	Setting the paper ejection when copying from the DP	FACE-DOWN
	U264	Setting the display order of the date	Month/Day/Year (inch) Day/Month/Year (metric)
	U265	Setting OEM purchaser code	0
	U266	Setting the number of days after which to automatically delete documents	0
	U277	Setting auto application change time	30 s
	U281	Setting stamp mode ON/OFF	OFF
	U326	Setting the black line cleaning indication	ON
	U327	Setting the drawer heater ON/OFF	OFF/OFF
	U330	Setting the number of sheets to enter stacking mode during sort operation	201
	U331	Switching the paper ejection mode	Face-up ejection
	U332	Setting the size conversion factor	1.0/1.0
	U335	Setting the drum heater mode	ON1
	U339	Setting the drum heater ON/OFF	OFF
	U341	Specific paper feed location setting for printing function	-
	U342	Setting the ejection restriction	ON
	U343	Switching between duplex/simplex copy mode	OFF
	U344	Setting the low-power mode	Energy star (120 V) GEEA (220-240 V)
	U345	Setting the value for maintenance due indication	-
Image processing	U402	Adjusting the margins for the image printing	-
	U403	Adjusting the margins for scanning an original on the contact glass	-
	U404	Adjusting the margins for scanning an original from the DP	-
	U407	Adjusting the leading edge registration for memory image printing	-
	U467	Adjusting the laser output	200 (80 cpm) 150 (60 cpm)
	U472	Adjusting the laser output position	0
Network scanner	U504	Initializing the scanner NIC	-
	U505	Setting data base assistant	ON
	U506	Setting the time out	10
	U508	Setting the LDAP	OFF
	U510	Setting the enterprise mode	OFF
	U511	Setting scan To FTP	OFF

*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Other	U901	Checking/clearing total copy counts by paper feed location	-
	U903	Checking/clearing the paper jam count	-
	U904	Checking/clearing the call for service counts	-
	U905	Checking/clearing count by optional devices	-
	U906	Resetting partial operational control	-
	U907	Checking/clearing the count value on each ejection location	-
	U908	Checking the total counter value	-
	U909	Checking/clearing the fuser web count	
	U910	Clearing the black ratio data	-
	U911	Checking/clearing the paper feed counts by paper size	-
	U920	Checking the copy counts	-
	U921	Checking/clearing the waste toner box count	-
	U922	Checking/clearing the solenoid count value	-
	U925	Checking/clearing the system error counts	-
	U927	Clearing the all copy counts and machine life counts	-
	U928	Checking machine life counts	-
	U935	Relay board maintenance	MODE 0
	U954	Setting the type of cooling fan	NEW
	U965	Setting the cassette disconnection	OFF
	U984	Checking the developing unit number	-
	U985	Displaying the developing unit history	-
	U986	Checking the cleaning unit number	-
	U987	Displaying the cleaning unit history	-
	U989	HDD Scandisk	-
	U990	Checking/clearing the time for the exposure lamp to light	-
	U991	Checking the scanner operation count	-

*Initial setting for executing maintenance item U020

(3) Contents of the maintenance mode items

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
Printing out an own-status report
Description
Prints out a list of the current settings of all maintenance items, and occurrences of paper jams and service calls.
Purpose
To check the current setting of the maintenance items, or the occurrences of paper jams and service calls. Before initializing or replacing the backup RAM, print out a list of the current settings of the maintenance items so that you can reenter the same settings after initialization or replacement.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the item to be output. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>List to be printed out</th></tr>
<tr><td>MAINTENANCE</td><td>List of the current settings of all maintenance items</td></tr>
<tr><td>JAM</td><td>List of paper jams</td></tr>
<tr><td>SERVICE CALL</td><td>List of service calls</td></tr>
</table>
3. Press the start key. The interrupt copy mode is entered and a list is output.
When A4/11" x 8 1/2" paper is available, a report of this size is output. If not, specify the paper feed location.
When output is complete, the screen for selecting an item is displayed.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U001</td><td>
Exiting the maintenance mode
Description
Exits the maintenance mode and returns to the normal copy mode.
Purpose
To exit the maintenance mode.
Method
Press the start key. The normal copy mode is entered.
</td></tr>
<tr><td>U002</td><td>
Setting the factory default data
Description
Restores the machine conditions to the factory default settings.
Purpose
To move the mirror frame of the scanner to the position for transport (position in which the frame can be fixed).
Method
1. Press the start key. The screen for executing is displayed.
2. Press MODE1(ALL) on the touch panel. It is displayed in reverse.
3. Press the start key.
The mirror frame of the scanner returns to the position for transport.
Completion
The main power switch turns off.
</td></tr>
</table>

Maintenance item No.	Description
U003	**Setting the service telephone number** **Description** Sets the telephone number to be displayed when a service call code is detected. **Purpose** To set (during initial set-up of the machine) the telephone number for contacting service. **Method** Press the start key. The currently set telephone number is displayed. **Setting** 1. Use the numeric keys to enter the telephone number (up to 15 digits). * To enter symbols such as hyphens and parentheses, select as required from the symbols displayed on the touch panel as shown below. To move the cursor, press Left or Right in the bottom row. | * | # | | (|) | | - | (Space) | | Left | Right | 2. Press the start key. The telephone number is set, and the screen for selecting a maintenance item No. is displayed. **Completion** To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
U004	**Displaying the machine number** **Description** Displays the machine number. **Purpose** To check the machine number. **Method** Press the start key. The currently machine number is displayed. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U005</td><td>
Copying without paper
Description
Simulates the copy operation without paper feed.
Purpose
To check the overall operation of the machine.
Remarks
Execute this maintenance mode after pull out all four cassettes.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the item to be operated. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>PPC</td><td>Only the copier operates.</td></tr>
<tr><td>PPC + DP</td><td>Both the copier and DP operate (continuous operation).</td></tr>
</table>
3. Press the interrupt key. The copy mode screen is displayed.
4. Set the operation conditions required on the copy mode screen. Changes in the following settings can be made.
Paper feed locations
Magnifications
Simplex or duplex copy mode
Number of copies: in simplex copy mode, continuous copying is performed when set to 999.
Copy density
Keys on the operation panel other than the energy saver (preheat) key
5. Press the start key. The operation starts.
Copy operation is simulated without paper under the set conditions. When operation is complete, the screen for selecting an item is displayed.
6. To stop continuous operation, press the stop/clear key.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U018</td><td>
Displaying the ROM checksum
Description
Displays the checksum of ROM.
Purpose
To check the checksum.
Method
Press the start key. The ROM checksum is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MAIN</td><td>Main PWB ROM checksum</td></tr>
<tr><td>ENGINE</td><td>Engine PWB ROM checksum</td></tr>
<tr><td>SCANNER</td><td>Network scanner* ROM checksum</td></tr>
<tr><td>LANGUAGE(Stand.)</td><td>Standard language ROM checksum</td></tr>
<tr><td>LANGUAGE(Option)</td><td>Optional language ROM checksum</td></tr>
<tr><td>DP</td><td>DP main PWB ROM checksum</td></tr>
<tr><td>FINISHER</td><td>Document finisher* ROM checksum</td></tr>
</table>
*Optional.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U019</td><td>
Displaying the ROM version
Description
Displays the part number for the ROM fitted to each PWB.
Purpose
To check the part number or to decide, based on the last digit of the number, if the newest version of ROM is installed.
Method
1. Press the start key. The ROM version is displayed.
2. Change the screen using the * or # keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MAIN</td><td>Main PWB ROM IC</td></tr>
<tr><td>ENGINE</td><td>Engine PWB ROM IC</td></tr>
<tr><td>SCANNER</td><td>Scanner PWB ROM IC</td></tr>
<tr><td>LANGUAGE (Stand.)</td><td>Standard language ROM IC</td></tr>
<tr><td>LANGUAGE(Option)</td><td>Optional language ROM IC</td></tr>
<tr><td>MAIN BOOT</td><td>Main PWB booting</td></tr>
<tr><td>PRINTER</td><td>Optional printer board booting</td></tr>
<tr><td>NETWORK SCANNER</td><td>Optional network scanner ROM IC</td></tr>
<tr><td>DP</td><td>DP ROM IC</td></tr>
<tr><td>FINISHER</td><td>Optional document finisher main PWB ROM IC</td></tr>
<tr><td>ENGINE BOOT</td><td>Engine PWB booting</td></tr>
<tr><td>CASSETTE1</td><td>Deck PWB ROM IC</td></tr>
<tr><td>CASSETTE2</td><td>Cassette PWB ROM IC</td></tr>
<tr><td>DUPLEX</td><td>Duplex PWB ROM IC</td></tr>
<tr><td>SIDE FEEDER</td><td>Optional side feeder main PWB ROM IC</td></tr>
</table>
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U020</td><td>
Initializing all data
Description
Initializes the backup memory on the scanner PWB, DP main PWB and engine PWB in order to return to the factory default settings.
Purpose
To be executed as required.
Method
1. Press the start key. The screen for executing the maintenance item is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key. All data in the backup memory is initialized and the default setting for the inch specifications is registered. When initializing is complete, the machine automatically returns to the same status as when the main power switch is turned on.
Completion
To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U021</td><td>
Memory initializing
Description
Initializes all settings, except those pertinent to the type of copier, namely each counter, service call history and mode setting. Also initializes backup RAM according to region specification selected in maintenance item U252 “Setting the destination.”
Purpose
To return the machine settings to their factory default.
Method
1. Press the start key. The screen for executing the maintenance item is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key. All data except that pertinent to the type of copier is initialized and the default setting for each destination is registered.
When initializing is complete, the machine automatically returns to the same status as when the main power switch is turned on.
Completion
To exit this maintenance item without executing initialization, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U022</td><td>
Initializing backup memory
Description
Initializes only the backup data for image processing.
Purpose
To be executed as required.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the item to initialize.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SCANNER+DP</td><td>Initialize the backup data of scanner PWB and DP main PWB.</td></tr>
<tr><td>ENGINE</td><td>Initialize the backup data of engine PWB.</td></tr>
<tr><td>DP</td><td>Initialize the backup data of DP main PWB.</td></tr>
</table>
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key. Backup data is initialized.
When initializing is complete, the machine automatically returns to the same status as when the main power switch is turned on.
Completion
To exit this maintenance item without executing initialization, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U024</td><td>
HDD formatting
Description
Formats the HDD backup data areas for the network scanner and department administration.
Purpose
To initialize the HDD when installing or replacing the HDD after shipping.
Method
1. Press the start key. The screen for executing the maintenance item is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key to initialize the hard disk.
The EXECUTE display flashes during initializing.
Initialization results is displayed when initializing is completed.
4. Press the Power key to off. Make sure that the Power lamp is off before turning off the main power switch.
Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
5. Turn the main power switch on.
Completion
To exit this maintenance item without executing initialization, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U026</td><td>
Evacuation of backup data
Description
Transfers the backup data of the main PWB to the EEPROM.
Purpose
Used when replacing the main PWB.
Method
1. Press the start key. The screen for executing is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key to transfer the backup data.
The screen displays the result.
EXECUTE
CHECK SUM ****
CODE XXXX
Where XXX is the code indicating the contents.
See the table below.
<table>
<tr><th>Code</th><th>Meaning</th></tr>
<tr><td>0000</td><td>Processing ends correctly.</td></tr>
<tr><td>0101</td><td>Verification abnormality occurs.</td></tr>
<tr><td>0102</td><td>Verification abnormality occurs at the time of check sum entry.</td></tr>
</table>
4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without transferring the data, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U027</td><td>
Return of backup data
Description
Transfers the backup data of the EEPROM which was transferred with the U026 to flash memory.
Purpose
To use after the main PWB replaced.
Method
1. Press the start key. The screen for executing is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. 3. Press the start key to transfer the backup data.
The screen displays the result.
EXECUTE
CHECK SUM ****
CODE XXXX
Where XXX is the code indicating the contents.
See the table below.
<table>
<tr><th>Code</th><th>Meaning</th></tr>
<tr><td>0000</td><td>Processing ends correctly.</td></tr>
<tr><td>0203</td><td>Check sum does not agree when reading out from the EEPROM.</td></tr>
</table>
4. Disconnect and connect the power plug.
Completion
To exit this maintenance item without transferring the data, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

This page is intentionally left blank.

Maintenance item No.	Description
U030	**Checking the operation of the motors** **Description** Drives each motor. **Description** To check the operation of each motor. **Method** 1. Press the start key. The screen for selecting an item is displayed. 2. Select the motor to be operated. The selected item is displayed in reverse and the operation starts. Two or more motors can be selected.

Display	Motor
MAIN_TFR_EJE	The drive motor (DM), transfer motor (TRM) and fuser motor (FM) are turned ON.
REG MOT	The registration motor (RM) is turned ON.
FEED MOT H	The feed motor (FDM) is turned ON high speed.
BP CV MOT H	The MP feed motor (MPFDM) is turned forwarding ON high speed.
BP FD MOT H	The MP feed motor (MPFDM) is turned reversing ON high speed.
PF MOT3 H	Paper feed motor 3 (PFM3) is turned ON high speed.
PF MOT4 H	Paper feed motor 4 (PFM4) is turned ON high speed.
VF MOT H	The vertical feed motor (VFDM) is turned ON high speed.
PF MOT1	Paper feed motor 1 (PFM1) is turned forwarding ON.
PF MOT2	Paper feed motor 2 (PFM2) is turned ON.
DECK FD MOT	Paper feed motor 1 (PFM1) is turned reversing ON.
DUP SB MOT	The duplex switchback motor (DUPSBM) is turned ON.
DUP SD REG	The duplex side registration motor (DUPSRM) is turned ON.
DUP FD MT L	The duplex feed motor (DUPFDM) is turned ON low speed.
FEED MOT L	The feed motor (FDM) is turned ON low speed.
BP CV MOT L	The MP feed motor (MPFDM) is turned ON low speed.
PF MOT3 L	Paper feed motor 3 (PFM3) is turned ON low speed.
PF MOT4 L	Paper feed motor 4 (PFM4) is turned ON low speed.
VF MOT L	The vertical feed motor (VFDM) is turned ON low speed.
MAIN MOT	The drive motor (DM) is turned ON.
TFR MOT	The transfer motor (TRM) is turned ON.
EJECT MOT	The transfer motor (FM) is turned ON.
DUP FD MT H	The duplex feed motor (DUPFDM) is turned ON high speed.
DLP MOT	The developing motor (DEVM) is turned ON.

3. To stop operation, an item is selected again or press the stop/clear key.

Completion

Press the stop/clear key after operation stops. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U031	**Checking switches for paper conveying** **Description** Displays the ON/OFF status of each paper detection switch on the paper conveying path. **Purpose** To check the operation of the switches for paper conveying. **Method** 1. Press the start key. A list of switches, the on-off status of which can be checked, are displayed. 2. Turn each switch on and off manually to check the status. When the on-status of a switch is detected, that switch is displayed in reverse.

Display	Sensor
REG SW	Registration switch (RSW)
FEED-A SW	Feed switch 1 (FSW1)
FEED-B SW E	Feed switch 2 (FSW2)
FD EJ SW	Switchback exit switch (SBESW)
EJECT SW	Exit switch (ESW)
FEED-B SW D	Feed switch 2 (FSW2)
LCF SW A	Deck conveying switch 1 (DKCSW1)
LCF SW B	Deck conveying switch 2 (DKCSW2)
FEED-C SW	Feed switch 3 (FSW3)
FEED-D SW	Feed switch 4 (FSW4)
FEED-E SW	Feed switch 5 (FSW5)
LDECK FD SW	Side feeder feed switch (SFFSW)*
FS SW	Feedshift switch (FSSW)
DUP JAM SW	Duplex jam detection switch (DUPJSW)
DUP FEED SW	Duplex feed switch (DUPFSW)
DUP CV SW A	Duplex conveying switch 1 (DUPCSW1)
DUP CV SW B	Duplex conveying switch 2 (DUPCSW2)
DUP CV SW C	Duplex conveying switch 3 (DUPCSW3)
PE SW1	Paper empty switch 1 (PESW1)
PE SW2	Paper empty switch 2 (PESW2)
PE SW3	Paper empty switch 3 (PESW3)
PE SW4	Paper empty switch 4 (PESW4)
LDECK PE SW	Side feeder paper empty switch (SFPESW)*
LIM SW1	Lift limit switch 1 (LILSW1)
LIM SW2	Lift limit switch 2 (LILSW2)
LIM SW3	Lift limit switch 3 (LILSW3)
LIM SW4	Lift limit switch 4 (LILSW4)
LCF-A-1 SW	Timing switch 1 (TIMSW1)
FEED-D-1 SW	Timing switch 2 (TIMSW2)
FEED-E-1 SW	Timing switch 3 (TIMSW3)

*Optional.

Completion

Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U033</td><td>
Checking the operation of the solenoids
Description
Applies current to each solenoid in order to check its ON status.
Purpose
To check the operation of each solenoid.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the solenoid to be operated. The selected item is displayed in reverse.
3. Press the start key. The selected solenoid turns on for 1 s.
<table>
<tr><th>Display</th><th>Solenoid</th></tr>
<tr><td>MP SOL</td><td>MP solenoid (MPSOL)</td></tr>
<tr><td>FS SOL</td><td>Feedshift solenoid (FSSOL)</td></tr>
<tr><td>WEB SOL</td><td>Fuser web solenoid (FWSOL)</td></tr>
<tr><td>DUP FS SOL</td><td>Duplex feedshift solenoid (DUPFSSOL)</td></tr>
<tr><td>DUP SB SOL</td><td>Duplex switchback solenoid (DUPSBSOL)</td></tr>
</table>
Completion
Press the stop/clear key at the screen for selecting an item.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U034</td><td>
Adjusting the print start timing
Adjustment
See pages 1-6-25 and 27.
</td></tr>
<tr><td>U035</td><td>
Setting the printing area for folio paper
Description
Changes the printing area for copying on folio paper.
Purpose
To prevent cropped images on the trailing edge or left/right side of copy paper by setting the actual printing area for folio paper.
Method
Press the start key. The setting screen is displayed.
Setting
1. Select the item to be set. The selected item is displayed in reverse.
2. Change the setting value using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Setting</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>LENGTH DATA</td><td>Length</td><td>330 to 356 (mm)</td><td>330</td></tr>
<tr><td>WIDTH DATA</td><td>Width</td><td>200 to 220 (mm)</td><td>210</td></tr>
</table>
3. Press the start key. The value is set.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U037</td><td>
Checking the operation of the fan motors
Description
Drives the fan motors.
Description
To check the operation of the fan motors.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the item to operate. The selected item is displayed in reverse and starts driving the fan motor.
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>FEED SHIFT FAN</td><td>The feedshift fan motor (FSFM) is turned ON.</td></tr>
<tr><td>DLP FAN R</td><td>The developing duct fan motor (DEVDFM) is turned ON.</td></tr>
<tr><td>DLP FAN F</td><td>Developing fan motor 1 (DEVFM1) and 2 (DEVFM2) are turned ON.</td></tr>
<tr><td>COOLING FAN</td><td>Cooling fan motor 1 (CFM1), cooling fan motor 2 (CFM2), cooling fan motor 3 (CFM3), cooling fan motor 4 (CFM4), PWB fan motor 1 (PWBFM1) and PWB fan motor 2 (PWBFM2) are turned ON.</td></tr>
<tr><td>DUP FAN</td><td>The duplex fan motor (DUPFM) is turned ON.</td></tr>
<tr><td>IMAGE FAN</td><td>The image formation fan motor (IFFM) is turned ON.</td></tr>
<tr><td>LSU FAN</td><td>The LSU fan motor (LSUFM) is turned ON.</td></tr>
<tr><td>LAMP FAN</td><td>The lamp fan motor (LFM) is turned ON.</td></tr>
</table>
3. To stop the motor, press the stop/clear key.
Completion
Press the stop/clear key when the motor stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U051</td><td>
Adjusting the amount of slack in the paper
Adjustment
See page 1-6-29.
</td></tr>
<tr><td>U052</td><td>
Adjusting duplex
Description
Adjusts the side registration of the duplex section.
Purpose
To check the operation of the duplex side registration motor.
Method
1. Press the start key. The screen for executing is displayed.
2. Change the value using the cursor up/down keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Adjustment of side registration</td><td>-128 to 127</td><td>-2</td></tr>
</table>
3. Press the start key. The value is set.
4. Press the interrupt key.
5. Press the start key to output the test pattern.
6. Open the front cover.
7. Pull the duplex unit out and check the position of duplex side registration guide.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U053	**Setting the adjustment of the motor speed** **Description** Performs fine adjustment of the speeds of the motors. **Purpose** Basically, the setting need not be changed. Modify settings by interlock setting only if faulty images occur. **Method** Press the start key. The screen for selecting an item is displayed. **Setting: interlock setting** 1. Select Interlock setting at the screen for selecting an item. 2. Select the item to be adjusted. The selected item is displayed in reverse. 3. Change the value using the cursor up/down keys.

Display	Description	Setting range	Default setting
MAIN MOTOR	Drive motor, transfer motor, fuser motor, registration motor and feed motor speed adjustment	-100 to 100	0/3/1/1/1 (80 cpm) 0/3/1/-1/-1 (60 cpm)
POLYGON MOTOR	Polygon motor speed adjustment	-100 to 100	0

If the value of MAIN MOTOR is changed, the value of the drive motor, transfer motor, fuser motor, registration motor and feed motor are change at the same time.

4. Press the start key. The value is set.

Interrupt copy mode

While this maintenance item is being executed, a VTC pattern shown below is output in interrupt copy mode.
Correct values for an A3/11" x 17" output are:
A = 300 ± 1.5 mm
B = 270 ± 1.5 mm

Adjustment

1. Output an A3/11" x 17" VTC pattern in interrupt mode.
2. Measure A and B on the VTC pattern (Figure 1-4-1), and perform the following adjustments if they are different from the correct sizes:

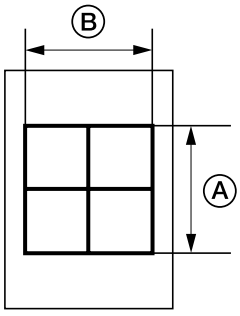


Figure 1-4-1

A: Drive motor speed adjustment
B: Polygon motor speed adjustment

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U053</td><td>
Setting: separate setting
1. Select Separate setting at the screen for selecting an item.
2. Select the item to be adjusted. The selected item is displayed in reverse.
3. Change the value using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>MAIN MOTOR</td><td>Drive motor speed adjustment</td><td>-100 to 100</td><td>0</td></tr>
<tr><td>TC MOTOR</td><td>Transfer motor speed adjustment</td><td>-100 to 100</td><td>3</td></tr>
<tr><td>FIX MOTOR</td><td>Fuser motor speed adjustment</td><td>-100 to 100</td><td>1</td></tr>
<tr><td>RESIST MOTOR</td><td>Registration motor speed adjustment</td><td>-100 to 100</td><td>1 (80 cpm)
-1 (60 cpm)</td></tr>
<tr><td>POLYGON MOTOR</td><td>Polygon motor speed adjustment</td><td>-100 to 100</td><td>0</td></tr>
<tr><td>FEED MOTOR</td><td>Feed motor speed adjustment</td><td>-100 to 100</td><td>1 (80 cpm)
-1 (60 cpm)</td></tr>
</table>
4. Press the start key. The value is set.
Setting: thick paper setting
1. Select Thick setting at the screen for selecting an item.
2. Select the item to be adjusted. The selected item is displayed in reverse.
3. Change the value using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>TC MOTOR</td><td>Transfer motor speed adjustment</td><td>-100 to 100</td><td>5 (80 cpm)
4 (60 cpm)</td></tr>
<tr><td>FIX MOTOR</td><td>Fuser motor speed adjustment</td><td>-100 to 100</td><td>0</td></tr>
<tr><td>RESIST MOTOR</td><td>Registration motor speed adjustment</td><td>-100 to 100</td><td>0</td></tr>
<tr><td>FEED MOTOR</td><td>Feed motor speed adjustment</td><td>-100 to 100</td><td>0</td></tr>
</table>
4. Press the start key. The value is set.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U054</td><td>
Adjusting the amount of slack in the paper
Adjustment
See page 1-6-30.
</td></tr>
<tr><td>U059</td><td>
Setting fan motor mode
Description
Specifies whether to rotate the fan motor in sleep mode.
Purpose
To rotate the fan motor for certain period of time to prevent rise in temperature inside the machine in sleep mode. In default setting, the fan motor stops immediately when switched to sleep mode and too high temperature is detected inside the machine.
Method
Press the start key. The screen for executing is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Developing fan motor 1/2, cooling fan motor 1/2/3/4, power source fan motor, image formation fan motor and PWB fan motor is rotated at a half speed in sleep mode.</td></tr>
<tr><td>OFF</td><td>The rotation of developing fan motor 1/2, cooling fan motor 1/2/3/4, power source fan motor, image formation fan motor and PWB fan motor is stopped in sleep mode.</td></tr>
</table>
Initial setting: OFF
2. Press the start key. The setting is set.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U059</td><td>Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U060</td><td>Adjusting the scanner input properties
Description
Adjusts the image scanning density in text, text and photo, or photo mode.
Purpose
Used when the entire image appears too dark or light.
Adjusts when replacing CIS of DP.
Method
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>Image scanning density</td></tr>
<tr><td>CIS</td><td>Image scanning density (scanning from DP)</td></tr>
</table>
Setting: image scanning density
1. Select CCD at the screen for selecting an item.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Image scanning density</td><td>1 to 23</td><td>12</td></tr>
</table>
2. Change the setting using the cursor up/down keys.
Increasing the setting makes the density lower, and decreasing it makes the density higher.
3. Press the start key. The value is set.
Setting: image scanning density (scanning from DP)
1. Select CCD at the screen for selecting an item.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Image scanning density (scanning from DP)</td><td>1 to 23</td><td>11</td></tr>
</table>
2. Change the setting using the cursor up/down keys.
Increasing the setting makes the density lower, and decreasing it makes the density higher.
3. Press the start key. The value is set.
Interrupt copy mode
A test copy is available in the interrupt copying mode when CIS is selected.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
Caution
The following settings are also reset to the initial values by performing this maintenance item:
Exposure density gradient set in maintenance mode (U093)
Exposure set in the copy default item of the copier management mode</td></tr>
<tr><td>U061</td><td>Checking the operation of the exposure lamps
Description
Lights the exposure lamps.
Purpose
To check whether the exposure lamps are turned ON.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>Exposure lamp</td></tr>
<tr><td>CIS</td><td>CIS (DP exposure lamp)</td></tr>
</table>
3. Press the start key. The selected lamp lights.
4. To turn the exposure lamp off, press the stop/clear key.
Interrupt copy mode
When CIS is selected, copying from an original is available in the interrupt copying mode.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U063</td><td>
Adjusting the shading position
Description
Changes the shading position of the scanner.
Purpose
Used when the white line continue to appear longitudinally on the image after the shading plate is cleaned. This is due to flaws or stains inside the shading plate. To prevent this problem, the shading position should be changed so that shading is possible without being affected by the flaws or stains.
Method
1. Press the start key. The setting screen is displayed.
2. Change the setting value using the cursor up/down keys.
<table>
<tr><th>Setting item</th><th>Setting range</th><th>Default setting</th><th>Change in value per step</th></tr>
<tr><td>Shading position</td><td>-8 to 2</td><td>0</td><td>0.17 mm</td></tr>
</table>
Increasing the value moves the shading position toward the machine right, and decreasing it moves the position toward the machine left.
3. Press the start key. The value is set.
Interrupt copy mode
While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.
Completion
Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U064</td><td>
Adjusting the CCD level
Description
Adjusts the CCD level.
Purpose
To adjust when density difference due to CCD is generated between both sides of the center of the copy image.
Setting
1. Press the start key. The screen for adjustment is displayed.
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>CCD level</td><td>3 to 5</td><td>4</td></tr>
</table>
3. Press the start key. The value is set.
Interrupt copy mode
While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.
Completion
Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U065</td><td>
Adjusting the scanning magnification
Adjustment
See pages 1-6-51 and 52.
</td></tr>
<tr><td>U066</td><td>
Adjusting the scanner leading edge registration
Adjustment
See page 1-6-54.
</td></tr>
<tr><td>U067</td><td>
Adjusting the optical axis (center line)
Adjustment
See page 1-6-53.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U068</td><td>
Adjusting the scanning position for originals from the DP
Description
Adjusts the position for scanning originals from the document processor. Performs the test copy at the five scanning positions after adjusting.
Purpose
Used when the image fogging occurs because the scanning position is not proper when the document processor is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed.
Method
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>ADJUST DATA</td><td>Starting position adjustment for scanning originals</td><td>-32 to 32</td><td>12</td></tr>
<tr><td>TEST POSITION</td><td>Scanning position for the test copy originals</td><td>0 to 4</td><td>0</td></tr>
</table>
Setting
1. Select ADJUST DATA of the screen for selecting an item.
2. Change the setting using the cursor up/down keys.
When the setting value is increased, the scanning position moves to the right and it moves to the left when the setting value is decreased.
3. Press the start key. The value is set.
4. Select TEST POSITION of the screen for selecting an item.
5. Select the Scanning position using the cursor up/down keys.
6. Press the start key. The value is set.
7. Set the original (the one which density is known) in the document processor and press the interrupt key. The screen for the test copy mode is displayed.
8. Press the start key. Test copy is executed.
9. Perform the test copy at each scanning position with the setting value from 0 to 4 and check that no black line appears and the image is normally scanned.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U070</td><td>
Adjusting the DP magnification
Adjustment
See pages 1-6-91.
</td></tr>
<tr><td>U071</td><td>
Adjusting the DP scanning timing
Adjustment
See page 1-6-93.
</td></tr>
<tr><td>U072</td><td>
Adjusting the DP original center line
Adjustment
See page 1-6-92.
</td></tr>
</table>

Maintenance item No.	Description
U073	**Checking the scanner operation** **Description** Simulates the scanner operation under the arbitrary conditions. **Purpose** To check the scanner operation. **Implementation** 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be operated. The selected item is displayed in reverse.

Display	Operation
SCANNER MOT	Scanner operation
HOME POTION	Home position operation
DP READING	DP scanning position operation
DUST CHECK	Dust adhesion check operation with lamp on

Setting: Scanning size

1. Select SCANNER MOT in the screen for selecting an item.
2. Press the start key.
3. Change the setting using the cursor up/down keys.

Display	Operating conditions	Setting range
ZOOM	Magnification	25 to 400%
SIZE	Original size	See below.
LAMP	On and off of the exposure lamp	0 (off) or 1 (on)

Original sizes for each setting in SIZE

Setting	Paper size	Setting	Paper size
5000	A4	5000	A5R
4300	B5	7800	Folio
5100	11" x 8 1/2"	10200	11" x 17"
10000	A3	9000	11" x 15"
8600	B4	8400	8 1/2" x 14"
7100	A4R	6600	8 1/2" x 11"
6100	B5R	5100	5 1/2" x 8 1/2"

4. Press the start key. The setting is set. Scanning starts under the selected conditions.
5. To stop operation, press the stop/clear key.

Completion

Press the stop/clear key with the scanning operation stopped.
The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U074	**Adjusting the DP input light luminosity** **Description** Adjusts the luminosity of the exposure lamp for scanning originals from the DP. **Purpose** Used if the exposure amount differs significantly between when scanning an original on the contact glass and when scanning an original from the DP. **Method** Press the start key. The screen for executing is displayed. **Setting** 1. Change the setting using the cursor up/down keys. Increasing the setting makes the luminosity higher, and decreasing it makes the luminosity lower. 2. Press the start key. The value is set. **Interrupt copy mode** While this maintenance item is being executed, copying from an original is available in the interrupt copying mode. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

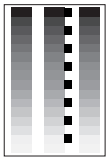
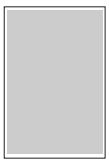
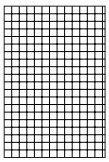
Description	Setting range	Default setting
DP input light luminosity	-12 to 12	0

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U076</td><td>
Executing DP automatic adjustment
Description
Uses a specified original and automatically adjusts the following items in the DP scanning section.
Adjusting the DP magnification (U070)
Adjusting the DP scanning timing (U071)
Adjusting the DP center line (U072)
When you run this maintenance mode, the preset values of U070, U071 and U072 will also be updated.
Purpose
To perform automatic adjustment of various items in the DP scanning section.
Method
1. Set a specified original in the DP.
2. Press the start key. The screen for selecting an item is displayed.
3. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FRONT</td><td>Automatic adjustment for first page</td></tr>
<tr><td>BACK</td><td>Automatic adjustment for second page</td></tr>
</table>
4. Press the start key. Auto adjustment starts. When adjustment is complete, each adjusted value is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CONVEY SPEED</td><td>DP magnification in the auxiliary scanning direction</td></tr>
<tr><td>LEAD EDGE ADJ</td><td>DP leading edge registration</td></tr>
<tr><td>TRAIL EDGE ADJ</td><td>DP trailing edge registration</td></tr>
<tr><td>DP CENTER</td><td>DP original center line</td></tr>
<tr><td>DP A MARGIN</td><td>DP scanning margin (A side)</td></tr>
<tr><td>DP B MARGIN</td><td>DP scanning margin (B side)</td></tr>
<tr><td>DP C MARGIN</td><td>DP scanning margin (C side)</td></tr>
<tr><td>DP D MARGIN</td><td>DP scanning margin (D side)</td></tr>
</table>
If a problem occurs during auto adjustment, DATA: XX (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.
Completion
Press the stop/clear key after auto adjustment is complete. The screen for selecting a maintenance item is displayed.
If the stop/clear key is pressed during auto adjustment, adjustment stops and no settings are changed.
</td></tr>
<tr><td>U080</td><td>
Adjusting exposure in toner economy mode
Description
Adjusts the image density in the eco-print mode.
Purpose
To increase or decrease the image density in the eco-print mode.
Method
Press the start key. The screen for adjustment is displayed.
Setting
1. Change the setting using the cursor up/down keys.
<table>
<tr><th>Setting</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Exposure is toner economy mode</td><td>-12 to 0</td><td>-5</td></tr>
</table>
Increasing the setting makes the image darker; decreasing it makes the image lighter.
2. Press the start key. The value is set.
Interrupt copy mode
While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U087	**Setting DP reading position modification operation** **Description** Sets the black line inspection at the time of reading the original from the DP. **Method** Press the start key. The screen for selecting an item is displayed. **Setting** 1. Select CCD at the screen for selecting an item. 2. Change the value using the cursor up/down keys. 3. Press the start key. The value is set. **Setting** 1. Select BLACK LINE at the screen for selecting an item. 2. Select CLEAR. 3. Press the start key. The setting is cleared. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

Setting	Setting range	Default setting
Black line inspection	0 to 255	200

Maintenance item No.	Description
U089	**Outputting the MIP-PG pattern** **Description** Selects and outputs the MIP-PG pattern created by the copier. **Purpose** To check copier status other than scanner when adjusting image printing, using MIP-PG pattern output (without scanning). **Method** 1. Press the start key. 2. Select the MIP-PG pattern to be output.

Display	PG pattern to be output	Purpose
GRAYSCALE		To check the laser scanner unit engine output characteristics.
MONO-LEVEL		To check the drum quality.
256-LEVEL		To check resolution reproducibility in printing.
1dot-LINE		To check fine line reproducibility. To adjust the position of the laser scanner unit (lateral squareness)
VTC-PG		

3. To change the output conditions of MONO-LEVEL, 1dot-LINE and VTC-PG, change the preset values using the cursor up/down keys and press the start key to register the setting.

Setting	Setting range	Default setting
Output density of MONO-LEVEL	0 or 70	0
1dot-LINE	0 to 21	0
VTC-PG	0 to 12	0

4. Press the interrupt key. The copy mode screen is displayed.
5. Press the start key. A MIP-PG pattern is output.

Completion

Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U092	**Adjusting the scanner automatically** **Description** Makes auto scanner adjustments in the order below using the specified original. Adjusting the scanner center line (U067) Adjusting the scanner leading edge registration (U066) Adjusting the scanner magnification in the auxiliary direction (U065) When this maintenance item is performed, the settings in U065, U066 and U067 are also changed. **Purpose** To make respective auto adjustments for the scanner. **Method** 1. Place the specified original on the contact glass. 2. Press the start key. The screen for executing is displayed. 3. Press the start key. Auto adjustment starts. When adjustment is complete, each adjusted value is displayed.

Display	Setting
SCAN CENTER	Scanner center line
SCAN TIMING	Scanner leading registration
SUB SCAN	Scanner magnification in the auxiliary direction
MAIN SCAN	Scanner magnification in the main scanning direction
SCAN A MARGIN	Scanner reading margin (A side)
SCAN B MARGIN	Scanner reading margin (B side)
SCAN C MARGIN	Scanner reading margin (C side)
SCAN D MARGIN	Scanner reading margin (D side)

If a problem occurs during auto adjustment, DATA: XX (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.
Since the scanner magnification in the main direction is not automatically adjusted, use U065 for this adjustment.

Completion
Press the stop/clear key after auto adjustment is complete. The screen for selecting a maintenance item No. is displayed.
If the stop/clear key is pressed during auto adjustment, adjustment stops and no settings are changed.

Maintenance item No.	Description
U093	**Adjusting the exposure density gradient** **Description** Changes the exposure density gradient in the manual density mode, depending on respective image quality modes. **Purpose** To set how the image density is altered by a change of one step in the manual density adjustment for respective image quality modes. Also used to make copy images darker or lighter. **Implementation** 1. Press the start key. The screen for selecting an item is displayed. 2. Select the image quality mode. The setting screen for the selected item is displayed.

Display	Setting
MIXED	Density in text and photo modes
TEXT	Density in the text mode
PHOTO	Density in the text and photo mode

Setting: Gradient in text and photo modes

1. Select the item to be set. The selected item is displayed in reverse.
2. Change the setting value using the cursor up/down keys.

Display	Setting	Setting range	Default setting
MIXED DARKER	Change in density when manual density is set dark	0 to 3	0
MIXED LIGHTER	Change in density when manual density is set light	0 to 3	0

Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.

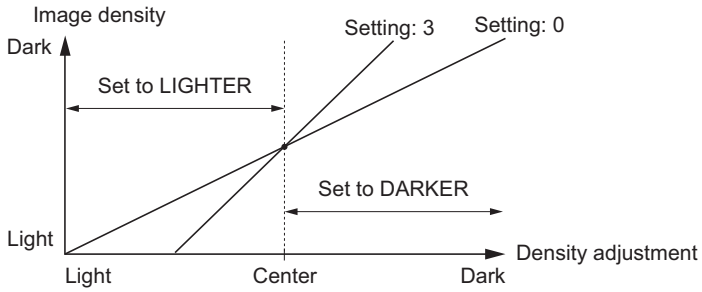


Figure 1-4-2 Exposure density gradient

3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.

Setting: Gradient in text mode

1. Select the item to be set. The selected item is displayed in reverse.
2. Change the setting value using the cursor up/down keys.

Display	Setting	Setting range	Default setting
TEXT DARKER	Change in density when manual density is set dark	0 to 3	0
TEXT LIGHTER	Change in density when manual density is set light	0 to 3	0

Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.

3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.

Maintenance item No.	Description
U093	**Setting: Gradient in photo mode** 1. Select the item to be set. The selected item is displayed in reverse. 2. Change the setting value using the cursor up/down keys.

Display	Setting	Setting range	Default setting
PHOTO DARKER	Change in density when manual density is set dark	0 to 3	0
PHOTO LIGHTER	Change in density when manual density is set light	0 to 3	0

Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.

3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.

Interrupt copy mode

While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.

Completion

Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U099	**Adjusting original size detection** **Description** Checks the operation of the original size detection sensor and sets the sensing threshold value. **Purpose** To adjust the sensitiveness of the sensor and size judgement time if the original size detection sensor malfunctions frequently due to incident light or the like. **Start** 1. Press the start key. The screen for selecting an item is displayed. 2. Select an item and press the start key. The screen for executing each item is displayed.

Display	Description
DATA	Displaying detection sensor transmission data
B/W LEVEL	Setting detection sensor threshold value
	Setting original size judgment time

Method to display the data for the sensor

1. Press the start key. The detection sensor transmission data is displayed.

Display	Description
TAIL EDGE POSI	Detected original trailing position
ORIGINAL AREA	Original size detection
SIZE	Detected original size

2. To return to the screen for selecting an item, press the stop/clear key.

Setting

1. Select an item to be set.

Display	Setting	Setting range	Default setting
ORIGINAL	Original threshold value	0 to 255	72
LIGHT SOURCE	Light source threshold value	0 to 255	72
WAIT TIME	Original size judgment time*	0 to 255	150
A4R AREA	Original size detection position display (mm)	220/240	240

*Time from activation of the original detection switch (ODSW) to original size judgment

Method to set the original size judgment time

1. Adjust the preset value using the * or # keys.
   A larger value increases the original size judgment time, and a smaller value decreases it.
2. Press the start key. The value is set.
3. To return to the screen for selecting an item, press the stop/clear key.

Completion

Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.

Maintenance item No.	Description
U100	**Adjusting the surface potential** **Description** Performs the main charging output. **Purpose** To check the main charging. Do not change the preset value. **Start** Press the start key. The screen for selecting an item is displayed.

Display	Description
DSP DATA	Changing the grid control voltage
MC ON/OFF	Turning the main charger on and off
LASER ON/OFF	Turning the main charger on and the laser scanner unit on and off
ADC SPV	The sampling value for every 1 sec of an potential sensor output value
MC ADJ GAIN	Value of the potential compensation
START ADJ GAIN	Turning the potential compensation on and off

Method for main charger output

1. Select the main charger output at the screen for selecting an item: select one from MC ON, MC ON/OFF or LASER ON/OFF on the touch panel. The selected operation starts.
2. To stop operation, press the stop/clear key.

Setting the grid control voltage

1. Select DSP DATA at the screen for selecting an item.
2. Change the setting using the * or # keys.

Setting	Setting range	Reference value
Grid control voltage	40 to 120	82

   Increasing the setting makes the surface potential higher, and decreasing it makes the potential lower.
   Change in value per step: approximately 3.6 V
3. Press the start key. The value is set.

Setting the value of the potential compensation

1. Select MC ADJ GAIN at the screen for selecting an item.
2. Change the setting using the * or # keys.

Setting	Setting range	Initial setting
Value of the potential compensation	0/15/20/25	20

   Basically, the setting need not be changed. Increase the setting value when poor image quality is caused by dirt in the main charger wire.
3. Press the start key. The value is set.

Setting the potential compensation

1. Select START ADJ GAIN at the screen for selecting an item.
2. Select 0 (OFF) or 1 (ON) using the * or # keys.
   Initial setting: 0 (OFF)
3. Press the start key. The value is set.

Interrupt copy mode

When MC ON/OFF or LASER ON/OFF is selected, copying from an original is available in the interrupt copying mode.

Completion

Press the stop/clear key at the screen for selecting an item when main charger output stops.
The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U101	**Setting the other high voltages** **Description** Sets the developing bias control voltage, the transfer control voltage, and the separation control voltage or checks the output of these voltages. **Purpose** To check or change the developing bias, the transfer voltage, and the separation voltage. **Method** Press the start key. The screen for selecting an item is displayed.

Display	Description	Setting range	Default setting
DEV BIAS SET	Developing bias control voltage	0 to 255	117
TC SET	Transfer control voltage	0 to 255	185 (80 cpm) 135 (60 cpm)
TC REV SET	Reverse transfer control voltage	0 to 255	200
VPP SET	VPP setting value	60 to 196	145
PTC TEST	PTC section operation check	-	-

Setting

1. Select the item to be set.
2. Change the setting using the * or # keys.
3. Press the start key. The value is set.

PTC section operation check

1. Select PTC TEST at the screen for selecting an item.
2. Press the start key.
   Drive motor, transfer motor and developing motor are turned on, and then cleaning lamp and PTC unit is turned on.

Interrupt copy mode

While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.

Completion

Press the stop/clear key at the screen for selecting an item. The screen for maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U102</td><td>
Setting the cleaning interval for the main charger
Description
Executes a cleaning operation for the main charger and changes the intervals at which the main charger is cleaned.
Purpose
To check the cleaning operation for the main charger. Also to change the intervals for the operation.
Making the intervals longer decreases the stand-by time when starting copying.
Potential compensation is automatically performed after a cleaning operation end.
Method
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MC ADJUST DATA</td><td>Main charger cleaning operation intervals</td></tr>
<tr><td>MC TEST RUN</td><td>Main charger cleaning operation ON</td></tr>
<tr><td>ON/OFF</td><td>Main charger cleaning operation start timing</td></tr>
</table>
Setting: main charger cleaning operation intervals
1. Change the setting using the * or # keys.
Setting range: 0 to 20 (unit: 1,000 sheets)
Initial setting: 5
If you select MC TEST RUN, the main charger cleaning operation will be performed once.
2. Press the start key. The value is set.
Setting: main charger cleaning operation start timing
1. Press ON/OFF on the touch panel of the screen for selecting an item.
2. Select 0 (OFF) or 1 (ON). The selected item is displayed in reverse.
Initial setting: OFF
If ON is selected, when the preset number of sheets for charger cleaning operation intervals is exceeded during copying, the copier stops copying temporarily and starts charger cleaning operation.
If OFF is selected, when the preset number of sheets for charger cleaning operation is exceeded during copying, the copier continues copying to the end and then starts charger cleaning operation.
3. Press the start key. The value is set.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U110</td><td>
Checking the drum count
Description
Displays the drum counts for checking.
Purpose
To check the drum status.
Method
Press the start key. The current drum counts and total drum counts are displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U111</td><td>
Checking/clearing the drum drive time
Description
Displays the drum drive time for checking, clearing or changing a figure, which is used as a reference when correcting the high voltage based on time.
Purpose
To check the drum status. Also used to clear the drive time after replacing the drum.
Method
Press the start key. The drum drive time is displayed.
Clearing
1. Press the reset key.
2. Press the start key. The drive time is cleared, and the screen for selecting a maintenance item No. is displayed.
Setting
1. Enter a five-digit drive time using the numeric keys.
2. Press the start key. The drive time is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit the maintenance mode without changing the drive time, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U127</td><td>
Checking/clearing the transfer count
Description
Displays the counts of the transfer counter for checking or clearing.
Purpose
To check the count after replacement of the transfer unit.
To clear the counter value when replacing the transfer belt.
Method
Press the start key. The current counts of the transfer counter is displayed.
Clearing
1. Press the reset key and press the start key. The count is cleared,
Completion
To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U129</td><td>
Adjusting the transfer timing
Description
Adjusts the ON/OFF timing of transfer charging output for each paper type.
Purpose
Used when faulty drum separation on paper occurs.
Method
Press the start key. The screen for adjustment is displayed.
Setting
1. Select the item to be set. The selected item is displayed in reverse.
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Setting</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>TC ON</td><td>Transfer charging output ON timing for plain paper</td><td>-30 to 30</td><td>-1.5 (80 cpm)
-4.0 (60 cpm)</td></tr>
<tr><td>TC OFF</td><td>Transfer charging output OFF timing for plain paper</td><td>-40 to 100</td><td>0 (80 cpm)
13.0 (60 cpm)</td></tr>
<tr><td>TC ON(VELLUM)</td><td>Transfer charging output ON timing for thin paper</td><td>-30 to 30</td><td>0 (80 cpm)
-2.5 (60 cpm)</td></tr>
<tr><td>TC OFF(VELLUM)</td><td>Transfer charging output OFF timing for thin paper</td><td>-40 to 100</td><td>0 (80 cpm)
13.0 (60 cpm)</td></tr>
<tr><td>TC ON(THICK)</td><td>Transfer charging output ON timing for thick paper</td><td>-30 to 30</td><td>-10.0</td></tr>
<tr><td>TC OFF(THICK)</td><td>Transfer charging output OFF timing for thick paper</td><td>-40 to 100</td><td>0 (80 cpm)
13.0 (60 cpm)</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U129</td><td>When the setting value of TC ON is increased, transfer timing becomes late to improve the separability.
3. Press the start key. The value is set.
Interrupt copy mode
While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.
Completion
Press the stop/clear key at the screen for adjustment.
The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U130</td><td>Initial setting for the developer
Description
Replenishes toner to the developer unit to a certain level from the toner container that has been installed.
Purpose
To operate when installing the machine or replacing the developing unit.
Method
1. Press the start key. The screen for executing is displayed.
2. Press the start key. Installation of the toner is started. (Approximately 5 minutes)
<table><tr><th>Display</th><th>Description</th></tr><tr><td>DLP SENS</td><td>Presence of toner inside developing unit (1: No/0: Yes)</td></tr><tr><td>TIME(SEC)</td><td>Toner install time*</td></tr><tr><td>RESULT</td><td>Result of the installation (0: During installation/1: Installation is successful/2: Installation is failed)</td></tr></table>When it becomes 3 minutes before an installation end, it will count up from 0 and will become an installation end by 180.
Completion
Press the stop/clear key after initial setting is complete. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U132</td><td>Replenishing toner forcibly
Description
Replenishes toner forcibly until the toner sensor output value reaches the toner feed start level.
Purpose
Used when the toner empty is detected frequently.
Method
1. Press the start key. The screen for executing is displayed.
2. Select INPUT and press the start key. Operation starts, and the current data is displayed.
Toner is replenished until the toner sensor output value reaches the toner feed start level.
3. To stop operation, press the stop/clear key.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U135</td><td>Checking toner motor operation
Description
Drives toner motor.
Description
To check the operation of toner motor.
Method
1. Press the start key. The screen for executing is displayed.
2. Press TONER MOT on the touch panel. It is displayed in reverse and the operation starts.
3. To stop the operation, press the stop/clear key.
Completion
Press the stop/clear key after operation stops. The screen for selecting a maintenance item No. is displayed.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U137</td><td>
Checking the toner level detection sensor
Description
Displays the detection status of the toner level detection sensor and toner container.
Purpose
To check the toner level in the developing unit and toner container. Also to check the installation of the toner container.
Method
1. Press the start key.
A list of switches, the on-off status of which can be checked, are displayed.
2. Turn each switch on and off manually to check the status.
When the on-status of a sensor is detected, that sensor is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>DLP SENS</td><td>Developing sensor (DEVS)</td></tr>
<tr><td>CONT SENS</td><td>Toner container sensor (TCS)</td></tr>
<tr><td>CONT SET SW</td><td>Toner container detection switch (TCDSW)</td></tr>
</table>
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U147</td><td>
Setting for toner applying operation
Description
Sets the mode and quantity for consuming charged toner in the developer unit.
Purpose
To change the settings of the standard print coverage ratio according to the situation of use of the user.
Start
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE</td><td>Toner applying operation mode</td></tr>
<tr><td>INTERVAL</td><td>Toner applying operation quantity</td></tr>
<tr><td>MODE6 DATA</td><td>Toner applying operation mode when setting MODE6</td></tr>
</table>
Method: Toner applying operation mode
1. Select MODE at the screen for selecting an item.
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Setting</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Toner applying operation mode</td><td>0 to 6 (MODE0 to MODE6)</td><td>6 (MODE6)</td></tr>
</table>
3. Press the start key. The setting is set.
Detail for MODE
<table>
<tr><th rowspan="2">Average print coverage ratio (%)</th><th colspan="7">MODE</th></tr>
<tr><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6 (AUTO)</th></tr>
<tr><td>Over 0 to less than 1</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>MODE5</td></tr>
<tr><td>Over 1 to less than 2</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>MODE5</td></tr>
<tr><td>Over 2 to less than 3</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>MODE4</td></tr>
<tr><td>Over 3 to less than 4</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>MODE3</td></tr>
<tr><td>Over 4 to less than 5</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>MODE0</td></tr>
<tr><td>Over 5</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>MODE0</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U147</td><td>
Method: Toner applying operation quantity
1. Select INTERVAL at the screen for selecting an item.
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Setting</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Toner applying operation quantity</td><td>50 to 4500</td><td>500</td></tr>
</table>
3. Press the start key. The setting is set.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U152</td><td>
Setting developing motor mode
Description
Sets the developing motor low speed driving.
Purpose
Basically, the setting need not be changed.
Setting is turned OFF when stopping the drive of a developing motor completely during standby.
Method
Press the start key. The screen for executing is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>With a developing motor low speed drive setting</td></tr>
<tr><td>OFF</td><td>With no developing motor low speed drive setting</td></tr>
</table>
Initial setting: ON
2. Press the start key. The setting is set.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U157</td><td>
Checking the developing drive time
Description
Displays the developing drive time for checking a figure, which is used as a reference when correcting the toner control.
Purpose
To check the developing drive time after replacing the developing unit.
Method
Press the start key. The developing drive time is displayed in minutes.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U158</td><td>
Checking the developing count
Description
Displays the developing count for checking.
Purpose
To check the developing count after replacing the developing unit.
Method
Press the start key. The developing count is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U161	**Setting the fuser control temperature** **Description** Changes the fuser control temperature. **Purpose** Normally no change is necessary. However, can be used to prevent curling or creasing of paper, or solve a fuser problem on thick paper. **Method** 1. Press the start key. The screen for selecting an item is displayed.

Display	Description
PAGE1	Control temperature during copying, primary stabilization fuser temperature, secondary stabilization fuser temperature, aging time after secondary stabilization, control temperature adjustment in duplex copying and time from power on to stabilization of fusing.
PAGE2	Control temperature adjustment in duplex copying using A4/Letter/B5 size paper, control temperature adjustment using small size paper and control temperature adjustment when the fuser heater temperature goes low.

2. Select the item to be set and press the start key. The screen for setting is displayed.

Setting: PAGE1

1. Select the item to be set. The selecting item is displayed in reverse.

Display	Setting	Setting range	Default setting
CONT TEMP	Control temperature during copying	100 to 230 (°C)	200 (80 cpm) 195 (60 cpm)
1ST TEMP	Primary stabilization fuser temperature	100 to 200 (°C)	175 (120 V) 140 (220-240 V)
2ND TEMP	Secondary stabilization fuser temperature	100 to 230 (°C)	185
TIME	Aging time after secondary stabilization	0 to 255 (s)	60
DUPLEX	Control temperature adjustment in duplex copying	-30 to 0 (°C)	-10
WARM UP TIME	Time from power on to stabilization of fusing	0 to 255 (s)	26

2. Change the setting using the cursor up/down keys.
   The respective temperatures are to be set such that 2ND TEMP >= 1ST TEMP.
3. Press the start key. The value is set.

Setting: PAGE2

1. Select the item to be set. The selecting item is displayed in reverse.

Display	Setting	Setting range	Default setting
DUPLEX2	Control temperature adjustment in duplex copying using A4/Letter/B5 size paper	-30 to 0 (°C)	0
SMALL	Control temperature adjustment using small size paper	-30 to 0 (°C)	0
SPEED DOWN	Control temperature adjustmen when the fuser heater temperature goes low	-10 to 10 (°C)	0

2. Change the setting using the cursor up/down keys.
3. Press the start key. The value is set.

Maintenance item No.	Description
U161	**Interrupt copy mode** While this maintenance item is being executed, the copy of whole surface black can be outputted in the interrupt copying mode. **Completion** Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.
U162	**Stabilizing fuser forcibly** **Description** Stops the stabilization fuser drive forcibly, regardless of fuser temperature. **Purpose** To forcibly stabilize the machine before the fuser section reaches stabilization temperature. **Method** 1. Press the start key. The screen for executing is displayed. 2. Press the start key. The forced stabilization mode is entered, and stabilization operation stops regardless of fuser temperature. The screen for selecting a maintenance item No. is displayed. To exit the forced stabilization mode, turn the power off and on. **Completion** To exit this maintenance item without executing forced fuser stabilization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
U163	**Resetting the fuser problem data** **Description** Resets the detection of a service call code indicating a problem in the fuser section. **Purpose** To prevent accidents due to an abnormally high fuser temperature. **Method** 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. 3. Press the start key. The fuser problem data is initialized. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
U167	**Checking/clearing the fuser count** **Description** Displays and clears the fuser count for checking. **Purpose** To check or clear the fuser count after replacement of the fuser unit. **Method** Press the start key. The fuser count is displayed. **Clearing** 1. Press the reset key. 2. Press the start key. The count is cleared. **Setting** 1. Enter a seven-digit value using the numeric keys. 2. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed. **Completion** To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
U180	**Checking the cleaning count** **Description** Displays the cleaning count for checking. **Purpose** To check the cleaning count after replacement of the cleaning unit. **Method** Press the start key. The cleaning count is displayed. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U194</td><td>
Setting the fuser web drive
Description
Sets the interval (number of copies) for turning on the fuser web solenoid.
Purpose
To be executed when the fuser web roller becomes extremely soiled.
Method
Press the start key. The screen for adjustment is displayed.
Setting
1. Change the setting using the cursor up/down keys.
<table>
<tr><th>Setting</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Interval for turning on the fuser web solenoid</td><td>0 to 255</td><td>30</td></tr>
</table>
2. Press the start key. The value is set.
Completion
To exit this maintenance item without changing the current value, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U196</td><td>
Turning the fuser heater on
Description
Turns the fuser heater M, S or L on.
Purpose
To check fuser heater turning on.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the heater to be turned on. The selected heater turns on for 2 s and then turns off.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FIX HEAT M</td><td>Fuser heater M (FH-M)</td></tr>
<tr><td>FIX HEAT S</td><td>Fuser heater S (FH-S)</td></tr>
<tr><td>FIX HEAT L</td><td>Fuser heater L (FH-L)</td></tr>
</table>
Completion
Press the stop/clear key when fuser heater M, S and L are off.
The screen for selecting the maintenance item No. is displayed.
</td></tr>
<tr><td>U198</td><td>
Setting the fuser phase control
Description
Sets the use of fuser phase control to reduce electrical noise generated by the copier.
Purpose
Normally no change is necessary.
If electrical noise generated by the copier causes flickering of the lights around the copier, select fuser phase control to reduces the noise.
Method
Press the start key. The screen for adjustment is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Fuser phase control present</td></tr>
<tr><td>OFF</td><td>Fuser phase control absent</td></tr>
</table>
Initial setting: ON (220-240 V specifications) / OFF (120 V specifications)
2. If you select ON, use the * or # key to set 0 (100 V system fuser heater phase control) or 1 (200 V system fuser heater phase control).
3. Press the start key. The value is set, and the maintenance mode is exited.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U199</td><td>
Displaying fuser heater temperature
Description
Displays the detected fuser temperature, temperature and humidity outside the machine, and temperature and humidity inside the machine.
Purpose
To check the fuser temperature, temperature and humidity outside the machine, and temperature and humidity inside the machine.
Method
Press the start key. The current setting is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FIX TEMP</td><td>Fuser temperature (°C)</td></tr>
<tr><td>FIX TEMP2</td><td>Fuser temperature (°C)</td></tr>
<tr><td>SURROUND TEMP</td><td>Temperature outside the machine (°C)</td></tr>
<tr><td>HUMIDITY</td><td>Humidity outside the machine (%)</td></tr>
<tr><td>DEV TEMP</td><td>Temperature inside the machine (°C)</td></tr>
<tr><td>DEV HUMIDITY</td><td>Humidity inside the machine (g)</td></tr>
</table>
Completion
Press the stop/clear key. The screen for selecting a maintenance mode No. is displayed.
</td></tr>
<tr><td>U200</td><td>
Turning all LEDs on
Description
Turns all the LEDs on the operation panel on.
Purpose
To check if all the LEDs on the operation panel light.
Method
Press the start key. All the LEDs on the operation panel light.
Press the stop/clear key or wait for 10 s.
The LEDs turns off, and the screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U201</td><td>
Initializing the touch panel
Description
Automatically correct the positions of the X- and Y-axes of the touch panel.
Purpose
To automatically correct the display positions on the touch panel after it is replaced.
Method
1. Press the start key. The screen for executing is displayed, and the + key displayed at the upper left of the touch panel flashes.
2. Press on the center of the + key. The + key on lower right flashes.
3. Press the center of the flashing +.
Initialization of the touch panel is complete, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without initializing, press the stop/clear key.
The screen for selecting a maintenance mode No. is displayed.
</td></tr>
<tr><td>U202</td><td>
Setting the KMAS host monitoring system
Description
Initializes or operates the KMAS host monitoring system.
This is an optional device which is currently supported only by Japanese specification machines, so no setting is necessary.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U203</td><td>
Operating DP separately
Description
Simulates the original conveying operation separately in the DP.
Purpose
To check the DP.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Place an original in the DP if running this simulation with paper.
3. Select the item to be operated. The selected item is displayed in reverse and the operation starts.
<table>
<tr><th>Display</th><th>Operation</th><th>Setting range</th></tr>
<tr><td>TEST1(NON P)</td><td>Without paper</td><td>-</td></tr>
<tr><td>TEST2</td><td>With paper</td><td>100 to 200 (%)</td></tr>
</table>
When TEST2 is selected, a setting value (magnification) can be changed using the * or # keys. Reading speed becomes slow if a setting value is increased.
4. To stop continuous operation, press the stop/clear key.
Completion
Press the stop/clear key when the operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U204</td><td>
Setting the presence or absence of a key card or key counter
Description
Sets the presence or absence of the optional key card or key counter.
Purpose
To run this maintenance item if a key card or key counter is installed.
Method
Press the start key. The screen for selecting an item is displayed
Setting
1. Select the optional counter to be installed using the cursor up/down keys. The selected counter is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>KEY-CARD</td><td>The key card is installed.</td></tr>
<tr><td>KEY-COUNTER</td><td>The key counter is installed.</td></tr>
</table>
2. Press the start key. The setting is set and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U206</td><td>
Setting the presence or absence of the coin vender
Description
Sets the presence or absence of the optional coin vender. Also sets the details for coin vender operation, such as mode and unit price.
This is an optional device which is currently supported only by Japanese specification machines, so no setting is necessary.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U207</td><td>
Checking the operation panel keys
Description
Checks operation of the operation panel keys.
Purpose
To check operation of all the keys and LEDs on the operation panel.
Method
1. Press the start key. The screen for executing is displayed.
2. COUNT1 is displayed and the leftmost LED on the operation panel lights.
3. As the keys lined up in the same line as the lit indicator are pressed in the order from the top to the bottom, the figure shown on the touch panel increases in increments of 1.
When all the keys in that line are pressed and if there are any LEDs corresponding to the keys in the line on the immediate right, the top LED in that line will light.
4. When all the keys on the operation panel have been pressed, all the LEDs light for up to 10 seconds.
5. When the LEDs go off, press the start key. All the LEDs light for 10 seconds again.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U208</td><td>
Setting the paper size for the feeders
Description
Sets the sizes of paper placed in cassette1, cassette 2 and optional side feeder respectively.
Purpose
To set the size when the size of paper placed in cassette 1, cassette 2 or optional side feeder is changed.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Press the start key. The screen for executing is displayed.
2. Select paper size (11 x 8.5, A4, or B5) as each cassette 1-2 and optional side feeder. The selected item is displayed in reverse.
Initial setting: A4 (220-240 V specifications)/11 x 8.5 (120 V specifications)
3. Press the start key. The setting is set and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U212</td><td>
Setting the feeder lift operation
Description
Sets the operation of the side feeder lift motor for when paper in the optional side feeder is exhausted.
Purpose
To be set according to the paper loading method.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the method to load paper.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SIDE FEED</td><td>Load paper through the right cover</td></tr>
<tr><td>UPPER FEED</td><td>Load paper through the upper cover</td></tr>
</table>
Initial setting: SIDE FEED
2. Press the start key. The setting is set.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U234</td><td>
Setting punch destination
Description
Sets the destination of optional punch unit of document finisher.
Purpose
To be set when installing the optional punch unit.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the destination.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>NOTHING</td><td>Automatic recognization</td></tr>
<tr><td>JAPAN METRIC</td><td>Metric (Japan) specifications</td></tr>
<tr><td>INCH</td><td>Inch (North America) specifications</td></tr>
<tr><td>EUROPE METRIC</td><td>Metric (Europe) specifications</td></tr>
<tr><td>SWEDEN METRIC</td><td>Metric (North Europe) specifications</td></tr>
</table>
Initial setting: NOTHING
2. Press the start key. The setting is set.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U235</td><td>
Setting output tray initialize mode
Description
Sets whether or not initialization (shift of eject position to main tray) is performed when auto clear is triggered if a multi-job tray is installed to an optional document finisher.
Purpose
To be set as required according to the user.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the item to be set. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>HP ON</td><td>Job tray initialization is performed.</td></tr>
<tr><td>HP OFF</td><td>Job tray initialization is not performed.</td></tr>
</table>
Initial setting: HP ON
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
Press the stop/clear key at the screen for selecting an item.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U237</td><td>
Adjusting finisher stack quantity
Description
Sets the number of sheets of stack on the main tray in the optional document finisher.
Purpose
To change the setting when a stack malfunction has occurred.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Change the setting using the cursor up/down keys.
<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>0</td><td>Stack quantity: 3000 sheets</td></tr>
<tr><td>1</td><td>Stack quantity: 1500 sheets</td></tr>
</table>
Initial setting: 0
If the preset value is changed to 1, the number of sheets of a stack is limited to 1,500 in modes other than the staple mode.
2. Press the start key. The setting is set.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U240	**Checking the operation of the finisher** **Description** Turns each motor and solenoid of the document finisher ON. **Purpose** To check the operation of each motor and solenoid of the document finisher. **Method** 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be checked.

Display	Description
FINISHER	Motors and solenoids of document finisher
SADDLE	Motors and solenoids of centerfold unit

Method: Checking the motor and solenoid of the document finisher

1. Select FINISHER at the screen for selecting an item.
2. Select the item to be operated.

Display	Motors and solenoids
FD_IN_MT_H	Paper entry motor (PEM) is turned on high speed
FD_IN_MT_M	Paper entry motor (PEM) is turned on middle speed
FD_IN_MT_L	Paper entry motor (PEM) is turned on low speed
CNV_MT_H	Paper conveying motor (PCM) is turned on high speed
CNV_MT_M	Paper conveying motor (PCM) is turned on middle speed
CNV_MT_L	Paper conveying motor (PCM) is turned on low speed
UP_MT	Upper paper conveying belt motor (PCBM-U) is turned on
DOWN_MT	Lower paper conveying belt motor (PCBM-L) is turned on
LGR_TEST	Front/rear upper side registration guide motor (SRGM-FU/RU) test operation for 11” x 17” size
A3_TEST	Front/rear upper side registration guide motor (SRGM-FU/RU) test operation for A3 size
WDTH_MT_L	Lower side registration guide motor (SRGM-L) is turned on
SLAP_MT_INI	Movable guide motor (MGM) is turned on initial driving
SLAP_MT_MOV	Movable guide motor (MGM) is turned on
DRM_MT_H	Siding drum motor (SDM) is turned high speed
DRM_MT_M	Siding drum motor (SDM) is turned middle speed
DRM_MT_L	Siding drum motor (SDM) is turned low speed
EJECT_MT_H	Eject motor (EJM) is turned on high speed
EJECT_MT_M	Eject motor (EJM) is turned on middle speed
EJECT_MT_L	Eject motor (EJM) is turned on low speed
MTRAY_MT	Main tray elevation motor (MTEM) is turned on
JTRAY_MT	Multi job tray elevation motor (MJTEM) is turned on
SOL_A	Feedshift solenoid A (FSSOLA) is turned on
SOL_B	Feedshift solenoid B (FSSOLB) is turned on
SOL_C	Feedshift solenoid C (FSSOLC) is turned on
COLO_SOL	Paper forwarding pulley solenoid (PFPSOL) is turned on
LOCK_SOL	Lock solenoid (LSOL) is turned on
P_PUT_SOL	Paper holder solenoid (PHSOL) is turned on
EJECT_SOL	Eject guide solenoid (EGSOL) is turned on
PUNCH_MT	Punch motor (PUNM) is turned on
PUNCH_SOL	Punch solenoid (PUNSOL) is turned on

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U240</td><td>
3. To turn ON a solenoid with the motor driving, press the interrupt key before selecting the solenoid. The driving motor will start operation, and the selected clutch or the solenoid will remain ON until the interrupt key is pressed again.
4. To stop motor driving, press the interrupt key again.
5. To return to the screen for selecting an item, press the stop/clear key with the motor stopped.
Method: Checking the motor and solenoid of the centerfold unit
1. Select SADDLE at the screen for selecting an item.
2. Select the item to be operated.
<table>
<tr><th>Display</th><th>Motors and solenoids</th></tr>
<tr><td>SDL_MT_H</td><td>Main motor (MM) is turned ON high speed</td></tr>
<tr><td>SDL_MT_L</td><td>Main motor (MM) is turned ON low speed</td></tr>
<tr><td>SDL_BLD_MT</td><td>Centerfold blade motor (CBLM) is turned ON</td></tr>
<tr><td>SDL_CTR_MT</td><td>Centering plate motor (CPM) is turned ON</td></tr>
<tr><td>SDL_WDTH_MT</td><td>Side registration guide motor (SRGM) is turned ON</td></tr>
<tr><td>SDL_SOL</td><td>Pressure release solenoid (PRSOL) is turned ON</td></tr>
</table>
3. To turn ON a solenoid with the motor driving, press the interrupt key before selecting the solenoid. The driving motor will start operation, and the selected clutch or the solenoid will remain ON until the interrupt key is pressed again.
4. To stop motor driving, press the interrupt key again.
5. To return to the screen for selecting an item, press the stop/clear key with the motor stopped.
Completion
Press the stop/clear key with the operation stopped. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U241</td><td>
Checking the operation of the switches of the finisher
Description
Displays the status of each switch of the document finisher.
Purpose
To check the operation of each switch of the document finisher.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Turn each switch ON manually.
When a switch is detected to be in the ON position, the display for that switch will be highlighted.
3. Change the screen using the * or # keys.
<table>
<tr><th>Display</th><th>Switches</th></tr>
<tr><td>FD_IN_SW</td><td>Paper entry sensor (PES)</td></tr>
<tr><td>EJT_SW</td><td>Paper ejection sensor (PEJS)</td></tr>
<tr><td>DRM_SW</td><td>Sub tray paper ejection sensor (STPES)</td></tr>
<tr><td>M_TRAY_FD_SW</td><td>Intermediate tray paper conveying sensor (ITPCS)</td></tr>
<tr><td>P_DET_U_SW</td><td>Upper paper conveying belt home position sensor (PCBHPS-U)</td></tr>
<tr><td>P_DET_D_SW</td><td>Lower paper conveying belt home position sensor (PCBHPS-L)</td></tr>
<tr><td>PCH_BOX_SW</td><td>Punch waste box sensor (PWBS)</td></tr>
<tr><td>SLAP_HP_SW</td><td>Movable guide home position sensor (MGHPS)</td></tr>
<tr><td>P_PUT_SW</td><td>Paper holder detection sensor (PHDS)</td></tr>
<tr><td>STP_FPIN_SW</td><td>Front stapler empty sensor (STES-F)</td></tr>
<tr><td>STP_RPIN_SW</td><td>Rear stapler empty sensor (STES-R)</td></tr>
<tr><td>STP_F_CT_SW</td><td>Front stapler cartridge sensor (STCS-F)</td></tr>
<tr><td>STP_R_CT_SW</td><td>Rear stapler cartridge sensor (STCS-R)</td></tr>
<tr><td>STP_F_HP_SW</td><td>Front stapler home position sensor (STHPS-F)</td></tr>
<tr><td>STP_R_HP_SW</td><td>Rear stapler home position sensor (STHPS-R)</td></tr>
<tr><td>CRT_F_HP_SW</td><td>Front clincher home position sensor (CLNHPS-F)</td></tr>
</table>
</td></tr>
</table>

Maintenance item No.	Description
U241	

Display	Switches
CRT_R_HP_SW	Rear clincher home position sensor (CLNHPS-R)
T_OPEN_SW	Upper cover switch (UCSW)
F_OPEN_SW	Front cover switch (FCSW)
JTRAY_DT_SW	Multi job tray position sensor (MJTPS)
JTRAY_P_SW1	Paper detection switch 1 (PDSW1)
JTRAY_P_SW2	Paper detection switch 2 (PDSW2)
JTRAY_P_SW3	Paper detection switch 3 (PDSW3)
JTRAY_P_SW4	Paper detection switch 4 (PDSW4)
JTRAY_P_SW5	Paper detection switch 5 (PDSW5)
JTRAY_ULT_SW	Multi job tray upper limit detection sensor (MJTULDS)
JTRAY_P_SW	Multi job tray front/rear switches (MJTSW-F/MJTSW-R)
JTRAY_U_SW	Multi job tray paper upper surface detection light emitting/intercepting sensors (MJTPUSDLES/MJTPUSDLIS)
MTRAY_U_SW	Main tray paper upper surface detection light emitting/intercepting sensors (MTPUSDLES/MTPUSDLIS)
MTRAY_LM_SW	Main tray upper limit detection sensor (MTULDS)
1000_SW	Main tray load 1000 detection sensor (MTLDS-10)
1500_SW	Main tray load 1500 detection sensor (MTLDS-15)
JTRAY_LLT_SW	Multi job tray lower limit detection sensor (MJTLLDS)
3000_SW	Main tray load 3000 detection sensors (MTLDS-30)
MTRAY_LLT_SW	Main tray lower limit detection sensor (MTLLDS)
N_STP_HP_SW	-
N_STP_CT_SW	-
W_UF_HP_SW	Front upper side registration guide home position sensor (SRGHPS-FU)
W_UR_HP_SW	Rear upper side registration guide home position sensor (SRGHPS-RU)
W_L_HP_SW	Lower side registration guide home position sensor (SRGHPS-L)
UP_HP_SW	Upper paper sensor (PS-U)
DWN_HP_SW	Lower paper sensor (PS-L)
SDL_SET_SW	Centerfold unit set switch (CUSSW)
SDL_DET_SW	Eject tray detection switch (ETDSW)
SDL_W_HP_SW	Side registration guide home position sensor (SRGHPS)
SDL_S_HP_SW	Centering plate home position sensor (CPHPS)
SDL_B_HP_SW	Centerfold blade home position sensor (CBLHPS)
SDL_FD_SW	Centerfold unit paper entry sensor (CUPES)
SDL_P_SW	Eject tray paper detection switch (ETPDSW)
SDL_E_SW	Folded edge detection sensor (FEDS)
SDL_T_SW	Inside tray detection sensor (ITDS)

Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U243</td><td>
Checking the operation of the DP motors
Description
Turns the motors in the DP on.
Purpose
To check the operation of the DP motors.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the item to be operated. The selected item is displayed in reverse and the operation starts.
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>DP FEED MOT</td><td>Original feed motor (OFM) is turned ON forwarding.</td></tr>
<tr><td>DP REG MOT</td><td>Original registration motor (ORM) is turned ON.</td></tr>
<tr><td>DP CONV MOT</td><td>Original conveying motor (OCM) is turned ON.</td></tr>
<tr><td>DP LIFT MOT</td><td>DP lift motor (DPLIM) is turned ON.</td></tr>
<tr><td>CIS FAN MOT</td><td>DP fan motor (DPFM) is turned ON.</td></tr>
<tr><td>DP FEED MOT REV</td><td>Original feed motor (OFM) is turned ON reversing.</td></tr>
</table>
3. To turn each motor off, press the stop/clear key.
Completion
Press the stop/clear key when operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U244</td><td>
Checking the operation of the DP switches
Description
Displays the status of the respective switches in the DP.
Purpose
To check if respective switches in the DP operate correctly.
Method
1. Press the start key.
A list of switches, the on-off status of which can be checked, are displayed.
2. Turn the respective switches on and off manually to check the status.
If the on-status of a switch is detected, the corresponding switch is displayed in reverse.
<table>
<tr><th>Display</th><th>Switches</th></tr>
<tr><td>LIFT LOW LIM SW</td><td>DP lift lower limit switch (DPLLLSW)</td></tr>
<tr><td>LIFT UP LIM SW</td><td>DP lift upper limit switch (DPLULSW)</td></tr>
<tr><td>DP SET SW</td><td>Original set switch (OSSW)</td></tr>
<tr><td>DP PSD SW</td><td>Original length size switch (OLSW)</td></tr>
<tr><td>DP FEED SW</td><td>Original feed switch (OFSW)</td></tr>
<tr><td>DP REG SW</td><td>Original registration switch (ORSW)</td></tr>
<tr><td>CCD TMG SW</td><td>DP timing switch 1 (DPTSW1)</td></tr>
<tr><td>CIS TMG SW</td><td>DP timing switch 2 (DPTSW2)</td></tr>
<tr><td>CIS COVER SW</td><td>CIS open/close switch (CISOCSW)</td></tr>
</table>
3. To return to the screen for selecting an item, press the stop/clear key.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U245</td><td>
Checking messages
Description
Displays a list of messages on the touch panel of the operation panel.
Purpose
To check the messages to be displayed.
Method
1. Press the start key.
2. Select the item to be displayed.
3. Change the screen using the cursor up/down keys to display each message one at a time.
When a message number is entered with the numeric keys and then the start key is pressed, the message corresponding the specified number is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U247</td><td>
Setting the paper feed device
Description
Drives each motor of the optional side feeder.
Purpose
To check the operation of the optional side feeder.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the motor to be operated.
When checking the side feeder lift motor (SFLM) operation, set the paper to the side feeder.
The selected item is displayed in reverse and the operation starts.
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>SDECK MOT</td><td>Side feeder drive motor (SFDM)</td></tr>
<tr><td>SDECK FAN</td><td>Separation fan motor (SPFM) and suction fan motor (IFM)</td></tr>
<tr><td>SDECK LIFT</td><td>Side feeder lift motor (SFLM)</td></tr>
<tr><td>SDECK CVCL</td><td>Side feeder conveying clutch (SFCCL)</td></tr>
<tr><td>SDECK FDCL</td><td>Side feeder paper feed clutch (SFPFCL)</td></tr>
</table>
3. To stop operation, press the stop/clear key.
If this maintenance item is executed with the upper cover of the side feeder open, detection of the upper limit is not possible and thus the side feeder lift motor overruns.
Completion
Press the stop key after operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

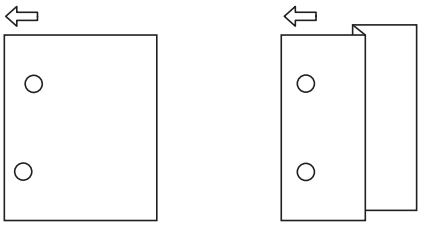
Maintenance item No.	Description
U248	**Setting the paper ejection device** **Description** Adjusts the paper stop timing in the punch mode, the booklet stapling position, and the center folding position for the copier with an document finisher installed. Also, displays and clears the punch-hole scrap count. **Purpose** Adjustment or registration stop timing in punch mode Adjust if skewed paper conveying occurs or if the copy paper is Z-folded in punch mode. Adjustment of paper stop timing in the punch mode To adjust this item when the position of a punch hole is different from the specified one. Punch-hole scrap count display (clearing) Used to manually clear the punch-hole scrap count if a message requiring collection of punch-hole scrap is shown on the touch panel after collection. Adjustment of booklet stapling position Adjusts the booklet stapling position in the stitching mode if the position is not proper. Adjustment of center folding position Adjusts the center folding position in the stitching mode if the position is not proper. Setting the punch limit Sets the maximum number of punches possible in order to be informed of the timing for disposing of waste punch. Decrease the value when using thick paper frequently. **Start** Press the start key. The screen for selecting an item is displayed.

Display	Description
PUNCH REGIST ADJUST	Adjustment of registration stop timing in punch mode
PUNCH POSITION ADJUST	Adjustment of the paper stop timing in punch mode
PUNCH COUNT	Punch-hole scrap count display
SADDLE STAPLE ADJUST	Booklet stapling position adjustment
SADDLE ADJUST	Adjustment of center folding position
PUNCH PRESET	Punch limit

Setting the registration stop timing in punch mode

1. Select PUNCH REGIST ADJUST at the screen for selecting an item.
2. Change the value using the cursor up/down keys.

Description	Setting range	Default setting
Adjustment of registration stop timing in punch mode	-5 to 5	0



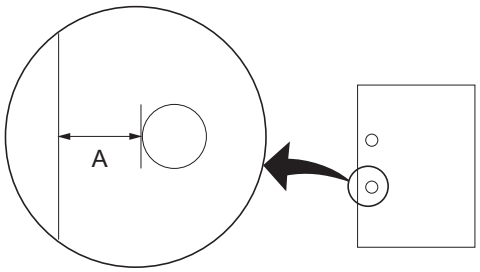
Sample 1 Sample 2

If skewed paper conveying occurs (sample 1), increase the preset value. If the copy paper is Z-folded (sample 2), decrease the preset value.

3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.

Maintenance item No.	Description
U248	**Setting the paper stop timing** 1. Select PUNCH POSITION ADJUST at the screen for selecting an item. 2. Change the value using the cursor up/down keys.

Description	Setting range	Default setting	Change in value per step
Adjustment of the paper stop timing in punch mode	-10 to 10	0	0.24 mm



Preset value A: 5.5±2mm (inch)
9.5±2mm (metric)

If the distance of the position of a punch hole is smaller than the specified value A, increase the preset value. If the distance is larger than the value A, decrease the preset value.
Changing the value by 1 changes by 1.0 mm.

3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.

Displaying the punch-hole scrap count

1. Select PUNCH COUNT at the screen for selecting an item.
2. Change the value using the cursor up/down keys.
   Press the reset key to clear the count.

Description	Setting range	Default setting
Punch-hole scrap count (current number of punching times)	0 to 9999999	-

3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.

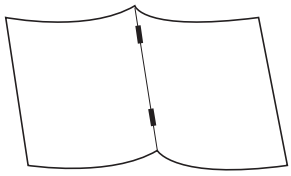
Setting the booklet stapling position

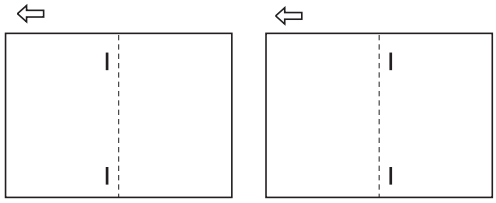
1. Select SADDLE STAPLE ADJUST at the screen for selecting an item.
2. Select the size to be set.
3. Change the setting using the cursor up/down keys.

Display	Description	Setting range	Default setting	Change in value per step
A4R/8.5 x 11	Adjustment of booklet stapling position for A4R/8.5 x 11 size	-10 to 10	0	0.55 mm
B4R/8.5 x 14	Adjustment of booklet stapling position for B4R/8.5 x 14 size	-10 to 10	0	0.55 mm
A3R/11 x 17	Adjustment of booklet stapling position for A3R/11 x 17 size	-10 to 10	0	0.55 mm

If the staple position is displaced toward the ejection side (copy sample 1), decrease the preset value. If the staple position is displaced toward the feeding side (copy sample 2), increase the preset value.

Maintenance item No.	Description
U248	





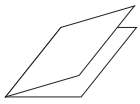
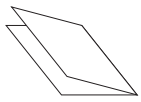
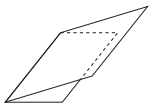
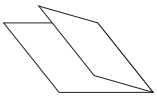
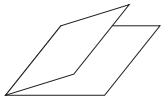
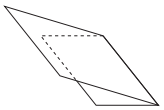
Copy sample 1 Copy sample 2

4. Press the start key. The value is set.
5. To return to the screen for selecting an item, press the stop/clear key.

Setting the center folding position

1. Select SADDLE ADJUST at the screen for selecting an item.
2. Select the size to be set.
3. Change the setting using the cursor up/down keys.

Display	Description	Setting range	Default setting	Change in value
A4R/8.5 x 11	Adjustment of center folding position for A4R/8.5 x 11 size	-10 to 10	0	0.55 mm
B4R/8.5 x 14	Adjustment of center folding position for B4R/8.5 x 14 size	-10 to 10	0	0.55 mm
A3R/11 x 17	Adjustment of center folding position for A3R/11 x 17 size	-10 to 10	0	0.55 mm

Left stapling	Right stapling	Adjustment method
		Proper
 Upper side is longer.	 Lower side is longer.	Increase the preset value.
 Lower side is longer.	 Upper side is longer.	Decrease the preset value.

4. Press the start key. The value is set.
5. To return to the screen for selecting an item, press the stop/clear key.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U248</td><td>
Setting the punch limit
1. Select PUNCH PRESET at the screen for selecting an item.
2. Change the value using the * or # keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Punch limit (max. number of punches)</td><td>0 to 999000</td><td>100000</td></tr>
</table>
The punch limit can be set to any value in increments of 1000.
3. Press the start key. The value is set.
4. To return to the screen for selecting an item, press the stop/clear key.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U250</td><td>
Setting the maintenance cycle
Description
Displays and changes the maintenance cycle.
Purpose
To check and change the maintenance cycle.
Method
Press the start key. The currently set maintenance cycle is displayed.
Setting
1. Select the item to be set. The selected item is displayed in reverse.
2. Change the setting value (0 to 9999999) using the numeric keys.
3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U251</td><td>
Checking/clearing the maintenance count
Description
Displays, clears and changes the maintenance count.
Purpose
To check the maintenance count. Also to clear the count during maintenance service.
Method
Press the start key. The maintenance count is displayed.
Clearing
1. Select the item to be cleared.
2. Press the reset key.
3. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed.
Setting
1. Enter a seven-digit count using the numeric keys.
2. Press the start key. The count is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U252	**Setting the destination** **Description** Switches the operations and screens of the machine according to the destination. **Purpose** To be executed after initializing the backup RAM by running maintenance item U020, in order to return the setting to the value before replacement or initialization. **Method** Press the start key. The screen for selecting an item is displayed. **Setting** 1. Select the destination. The selected item is displayed in reverse.

Display	Description
JAPAN METRIC	Metric (Japan) specifications
INCH	Inch (North America) specifications
EUROPE METRIC	Metric (Europe) specifications
ASIA PACIFIC	Metric (Asia Pacific) specifications

2. Press the start key.
   The setting is set, and the machine automatically returns to the same status as when the power is turned on.

Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
Supplement
The specified initial settings are provided according to the destinations in the maintenance items below.
To change the initial settings in those items, be sure to run maintenance item U021 after changing the destination.
Initial setting according to the destinations

Maintenance	Title	Japan	Inch	Europe Metric, Asia Pacific
208	Setting the paper size for the deck	A4	11 x 8.5	A4
212	Setting the deck lift operation	UPPER	SIDE	SIDE
253	Switching between double and single counts	SINGLE COUNT	DOUBLE COUNT	DOUBLE COUNT
258	Switching copy operation at toner empty detection	0	5	5
264	Setting the display order of the date	YEAR-MONTH-DATE	MONTH-DATE-YEAR	DATE-MONTH-YEAR
344	Setting preheat/energy saver mode	ENERGY STAR	ENERGY STAR	GEEA

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U253</td><td>
Switching between double and single counts
Description
Switches the count system for the total counter and other counters.
Purpose
According to user (copy service provider) request, select if A3/11 x 17 or B4/Legal paper is to be counted as one sheet (single count) or two sheets (double count).
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select double or single count. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SINGLE COUNT</td><td>Single count for all size paper</td></tr>
<tr><td>DOUBLE COUNT(A3/11 x 17)</td><td>Double count for A3/11" x 17" paper only</td></tr>
<tr><td>DOUBLE COUNT(B4)</td><td>Double count for B4/legal size or larger</td></tr>
</table>
Initial setting: DOUBLE COUNT(A3/11" x 17")
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U254</td><td>
Turning auto start function ON/OFF
Description
Selects if the auto start function is turned on.
Purpose
Normally no change is necessary. If incorrect operation occurs, turn the function off: this may solve the problem.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select either ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Auto start function on</td></tr>
<tr><td>OFF</td><td>Auto start function off</td></tr>
</table>
Initial setting: ON
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U258</td><td>
Switching copy operation at toner empty detection
Description
Selects if continuous copying is enabled after toner empty is detected, and sets the number of copies that can be made after the detection.
Purpose
To change the copying operation after detection of toner empty status.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select single or continuous copying. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SINGLE MODE</td><td>Enables only single copying.</td></tr>
<tr><td>CONTINUE MODE</td><td>Enables single and continuous copying.</td></tr>
</table>
Initial setting: SINGLE
2. Set the number of copies that can be made using the * or # keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Number of copies after toner empty detection</td><td>0 to 200</td><td>200</td></tr>
</table>
The setting can be changed by 5 copies per step.
When set to 0, the number of copies is not limited regardless of the setting for single or continuous copying.
3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
Press the stop/clear key at the screen for selecting an item.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U260</td><td>
Selecting the timing for copy counting
Description
Changes the copy count timing for the total counter and other counters.
Purpose
To be set according to user (copy service provider) request.
If a paper jam occurs frequently in the optional document finisher when the number of copies is counted at the time of paper ejection, copies are provided without copy counts. The copy service provider cannot charge for such copying. To prevent this, the copy timing should be made earlier.
If a paper jam occurs frequently in the paper conveying or fuser sections when the number of copies is counted before the paper reaches those sections, copying is charged without a copy being made.
To prevent this, the copy timing should be made later.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the copy count timing. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FEED</td><td>When secondary paper feed starts</td></tr>
<tr><td>EJECT</td><td>When the paper is ejected</td></tr>
</table>
Initial setting: EJECT
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U263</td><td>
Setting the paper ejection when copying from the DP
Description
Sets whether the copies will be ejected in the same or opposite order as the originals when copying from the DP.
Purpose
Set according to the preference of the user.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the ejection order. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FACE-DOWN (NORMAL)</td><td>Face down ejection</td></tr>
<tr><td>FACE-UP (SPEED)</td><td>Face up ejection with bitmap copy</td></tr>
<tr><td>FACE-UP (MEMORY)</td><td>Face up ejection with memory copy</td></tr>
</table>
Initial setting: FACE-DOWN
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U264</td><td>
Setting the display order of the date
Description
Selects year, month and day as the order of that appears on lists, etc.
Purpose
Set according to the user preference.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the desired order. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>YEAR-MONTH-DATE</td><td>Year/Month/Day</td></tr>
<tr><td>MONTH-DATE-YEAR</td><td>Month/Day/Year</td></tr>
<tr><td>DATE-MONTH-YEAR</td><td>Day/Month/Year</td></tr>
</table>
Initial setting: MONTH-DATE-YEAR (for the inch specifications)
DATE-MONTH-YEAR (for the metric specifications)
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U265</td><td>
Setting OEM purchaser code
Description
Sets the OEM purchaser code.
Purpose
Sets the code when replacing the main PWB and the like.
Or sets the data after executing U020 (Initializing all data).
Method
Press the start key.
Setting
1. Adjust the preset value using the cursor up/down keys.
2. Press the start key. The count is set, and the screen for selecting a maintenance item is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U266</td><td>
Setting the number of days after which to automatically delete documents
Description
Sets the number of days to save documents on the HDD before automatically deleting.
Purpose
To change the number of days to retain data that is saved within the auto-delete area of the HDD before automatically deleting.
Method
Press the start key. The current setting is displayed.
Setting
1. Change the setting using the cursor up/down keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Number of days after which to automatically delete documents</td><td>0 to 7</td><td>0</td></tr>
</table>
2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U277</td><td>
Setting auto application change time
Description
Sets the time that passes until the machine starts automatically printing after completing copying or operation when the machine is used as a printer (only if the printer kit is installed).
Purpose
According to user request, changes the setting.
Method
Press the start key. The current setting is displayed.
Setting
1. Change the setting using the cursor up/down keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Switching time</td><td>30 to 270 (s)</td><td>30 (s)</td></tr>
</table>
The setting can be changed by 30 s per step.
2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U281</td><td>
Setting stamp mode ON/OFF
Description
Sets ON/OFF of the stamp mode.
Purpose
To turn the setting on, in order to manage, by which machine it was printed.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>A stamp function is used.</td></tr>
<tr><td>OFF</td><td>A stamp function is not used.</td></tr>
</table>
Initial setting: OFF
When setting turns to ON, set a stamp number using the numeric keys.
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U326</td><td>
Setting the black line cleaning indication
Description
Sets whether to display the cleaning guidance when detecting the black line.
Purpose
Displays the cleaning guidance in order to make the call for service with the black line decrease by the rubbish on the contact glass when scanning from the DP.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Displays the cleaning guidance</td></tr>
<tr><td>OFF</td><td>Not to display the cleaning guidance</td></tr>
<tr><td>COUNT</td><td>Setting counts of the cleaning guidance indication</td></tr>
</table>
Initial setting: ON
Setting count value is displayed only if the setting is ON.
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Setting the count value
1. Enter a three-digit value using the # or * key, or numeric keys. and then press the start key. The value is set.
When setting is 0, the black line cleaning indication is displayed only if the black line is detected.
2. To clear the count, press the reset key and then press the start key. The count is cleared and the screen for selecting a maintenance item is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U327</td><td>
Setting the drawer heater ON/OFF
Description
Sets ON/OFF of the drawer heater and optional side feeder dehumidifier.
Purpose
To change the setting when dew condensation on the drum is heavy.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CASSETTE ON</td><td>Drawer heater ON</td></tr>
<tr><td>CASSETTE OFF</td><td>Drawer heater OFF</td></tr>
<tr><td>SIDE FEEDER ON</td><td>Side feeder dehumidifier heater ON</td></tr>
<tr><td>SIDE FEEDER OFF</td><td>Side feeder dehumidifier heater OFF</td></tr>
</table>
Initial setting: Drawer heater OFF, side feeder dehumidifier OFF
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U330</td><td>
Setting the number of sheets to enter stacking mode during sort operation
Description
Sets the number of copies at which copy ejection will be switched from the optional document finisher's sub tray to its main tray when sorting is turned ON in the setting for the output mode under user simulation.
Purpose
To be set as required according to the number of copies the user makes.
Method
Press the start key. The current setting is displayed.
Setting
1. Change the setting using the cursor up/down keys.
2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.
Initial setting: 201 (sheets)
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U331</td><td>
Switching the paper ejection mode
Description
Sets whether to eject copied sheets with the printed face facing up or down.
Purpose
To be set according to user request.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the ejection mode. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FACE UP</td><td>Face-up ejection</td></tr>
<tr><td>FACE DOWN</td><td>Face-down ejection</td></tr>
</table>
Initial setting: FACE UP
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U332</td><td>
Setting the size conversion factor
Description
Sets the coefficient of nonstandard sizes in relation to the A4/11" x 8 1/2" size. The coefficient set here is used to convert the black ratio in relation to the A4/11" x 8 1/2" size and to display the result in user simulation.
Purpose
To set the coefficient for converting the black ratio for nonstandard sizes in relation to the A4/11" x 8 1/2" size for copying and printing respectively.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select copying (COPY) or printing (PRT).
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>COPY</td><td>Size parameter for copying</td><td>0.1 to 3.0</td><td>1.0</td></tr>
<tr><td>PRT</td><td>Size parameter for printing</td><td>0.1 to 3.0</td><td>1.0</td></tr>
</table>
3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U335</td><td>
Setting the drum heater mode
Description
Sets the drum heater to ON or OFF. If the image deletion occurs in an environment of a temperature and humidity widely varies, change the setting to ON2.
Purpose
Basically, the setting need not be changed.
Method
Press the start key. The screen for selecting an item is displayed.
Setting the drum heater
1. Select ON1, ON2 or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON1</td><td>Controls the drum heater to be turned ON/OFF by temperature and humidity.</td></tr>
<tr><td>ON2</td><td>Always ON</td></tr>
<tr><td>OFF</td><td>Always OFF</td></tr>
</table>
Initial setting: ON1
2. Press the start key. The setting is set, and the screen for selecting a maintenance item is displayed.
Checking the drum heater
1. Select DRUM HEATER CHECK.
The selected item blinks and the check of a drum heater is started.
When a drum heater is normal, 1 is displayed, and in the case of abnormalities, 0 is displayed.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U339</td><td>
Setting the drum heater ON/OFF
Description
Sets the drum heater and drawer heater to ON or OFF for the sleep mode.
Purpose
To change the setting when dew condensation on the drum is heavy.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select ON or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Power source is supplied to the drum heater PWB in sleep mode</td></tr>
<tr><td>OFF</td><td>Power source is not supplied to the drum heater PWB in sleep mode</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U341</td><td>
Specific paper feed location setting for printing function
Description
Sets a paper feed location specified for printer output (only if a printer kit is installed).
Purpose
To use a paper feed location only for printer output.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the paper feed location for the printer. The selected item is displayed in reverse.
Two or more cassette can be selected.
Selection is canceled when the selected item is pressed again.
3. Press the start key. The setting is set.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U342</td><td>
Setting the ejection restriction
Description
Sets or cancels the restriction on the number of sheets to be ejected continuously when the internal eject tray is selected as the eject location.
Purpose
According to user request, sets or cancels restriction on the number of sheets.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select ON or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Sets restriction on the number of sheets</td></tr>
<tr><td>OFF</td><td>Cancels restriction on the number of sheets</td></tr>
</table>
Initial setting: ON
3. Press the start key. The setting is set.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U343</td><td>
Switching between duplex/simplex copy mode
Description
Switches the initial setting between duplex and simplex copy.
Purpose
To be set according to frequency of use: set to the more frequently used mode.
Setting
1. Press the start key. The screen for selecting an item is displayed.
2. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Duplex copy</td></tr>
<tr><td>OFF</td><td>Simplex copy</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U344</td><td>
Setting the low-power mode
Description
Changes the control for low-power mode.
Purpose
According to user request, selects which has priority, the recovery time from low-power or energy saver.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select control mode. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ENERGY STAR</td><td>The fuser control temperature is lowered by 20 °C/68 °F and forced stabilization is performed 30 seconds after exiting preheat.</td></tr>
<tr><td>GEEA</td><td>The fuser control temperature is lowered by 15 °C/59 °F and forced stabilization is performed 30 seconds after exiting preheat.</td></tr>
</table>
Initial setting: ENERGY STAR (120 V specifications)/GEEA (220-240 V specifications)
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
Press the stop/clear key at the screen for selecting an item.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U345	**Setting the value for maintenance due indication** **Description** Sets when to display a message notifying that the time for maintenance is about to be reached, by setting the number of copies that can be made before the current maintenance cycle ends. When the difference between the number of copies of the maintenance cycle and that of the maintenance count reaches the set value, the message is displayed. This maintenance mode is effective for only Japanese specification.
U402	**Adjusting margins of image printing** **Adjustment** See page 1-6-28.
U403	**Adjusting margins for scanning an original on the contact glass** **Adjustment** See page 1-6-55.
U404	**Adjusting margins for scanning an original from the DP** **Adjustment** See page 1-6-95.
U407	**Adjusting the leading edge registration for memory image printing** **Adjustment** See page 1-6-18.
U467	**Adjusting the laser output** **Description** Adjusts the laser output power. **Purpose** The setting need not be changed. **Method** Press the start key. The screen for adjustment is displayed. **Setting** 1. Change the setting using the cursor up/down keys. Setting range: 0 to 255 Initial setting: 200 (80 cpm), 150 (60 cpm) A larger preset value causes dots and lines to be clearly large and thick and the reference density to be darker. A smaller preset value causes dots and lines to be clearly small and thin and the reference density to be lighter. Although three lasers (ADJUST DATA1, ADJUST DATA2 and ADJUST DATA3) can be adjusted separately, be sure to set the same value. If different values are set, proper images cannot be obtained. 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. **Completion** To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U472</td><td>
Adjusting the laser output position
Description
Adjust the writing position of a laser output.
Purpose
Enter the numerical value indicated by the LSU cover in order to arrange the writing position of three laser when replacing the laser scanner unit.
Method
Press the start key. The screen for executing is displayed.
Setting
1. Select the item to be adjusted.
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>DLY 1</td><td>Delay value of PWM1 output</td><td>0 to 15</td><td>0</td></tr>
<tr><td>DLY 2</td><td>Delay value of PWM2 output</td><td>0 to 15</td><td>0</td></tr>
<tr><td>DLY 3</td><td>Delay value of PWM3 output</td><td>0 to 15</td><td>0</td></tr>
</table>
3. Press the start key. The value is set.
Interrupt copy mode
While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.
Completion
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U504</td><td>
Initializing the scanner NIC
Description
Initializing the optional scanner NIC to its factory default.
Purpose
To return to a setup at the time of factory shipments.
Method
1. Press the start key. The screen for executing is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key. All data in the scanner NIC is initialized.
Completion
To exit this maintenance item without executing initialization, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U505</td><td>
Setting data base assistant
Description
Sets whether or not the database linkage setting is enabled if an optional network scanner is installed.
Purpose
According to user request, changes the setting.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Database linkage setting is enabled.</td></tr>
<tr><td>OFF</td><td>Database linkage setting is disabled.</td></tr>
</table>
Initial setting: ON
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U506</td><td>
Setting the time out
Description
Sets the communication timeout time for connection to a computer.
Purpose
To change the preset value if a communication error occurs after connection to a computer continues for a long time. By delaying the error detection timing, the error may be cleared. If the error is not cleared after the preset value is changed, however, return the preset value to the initial value.
Method
Press the start key. The current setting is displayed.
Setting
1. Change the value using the cursor up/down keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Default setting</th></tr>
<tr><td>Timeout time</td><td>10 to 120 (s)</td><td>10</td></tr>
</table>
The setting can be changed by 10 s per step.
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U508</td><td>
Setting the LDAP
Description
Enables or disables an LDAP server.
Purpose
To change the setting to ON when use of an LDAP server is requested.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>LDAP server is enabled.</td></tr>
<tr><td>OFF</td><td>LDAP server is disabled.</td></tr>
</table>
Initial setting: OFF
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U510</td><td>
Setting the enterprise mode
Description
Sets whether or not the enterprise mode setting is enabled if an optional network scanner is installed.
This maintenance mode is effective for only 120 V specifications.
Purpose
According to user request, changes the setting.
Supplement
It is not possible to turn setting simultaneously with U511 (Setting scan To FTP) to ON.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Enterprise mode setting is enabled.</td></tr>
<tr><td>OFF</td><td>Enterprise mode setting is disabled.</td></tr>
</table>
Initial setting: OFF
2. Press the start key. The setting is set.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U511</td><td>
Setting scan To FTP
Description
Sets whether or not scan to FTP setting is enabled if an optional network scanner is installed.
This maintenance mode is effective for only 120 V specifications.
Purpose
According to user request, changes the setting.
Supplement
It is not possible to turn setting simultaneously with U510 (Setting the enterprise mode) to ON.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Scan to FTP setting is enabled.</td></tr>
<tr><td>OFF</td><td>Scan to FTP setting is disabled.</td></tr>
</table>
Initial setting: OFF
2. Press the start key. The setting is set.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U901</td><td>
Checking/clearing copy counts by paper feed locations
Description
Displays or clears copy counts by paper feed locations.
Purpose
To check the time to replace consumable parts. Also to clear the counts after replacing the consumable parts.
Method
1. Press the start key. The counts by paper feed locations are displayed.
<table>
<tr><th>Display</th><th>Paper feed locations</th></tr>
<tr><td>BYPASS</td><td>MP tray</td></tr>
<tr><td>CASSETTE 1</td><td>Cassette 1</td></tr>
<tr><td>CASSETTE 2</td><td>Cassette 2</td></tr>
<tr><td>CASSETTE 3</td><td>Cassette 3</td></tr>
<tr><td>CASSETTE 4</td><td>Cassette 4</td></tr>
<tr><td>SIDE FEEDER</td><td>Optional side feeder</td></tr>
<tr><td>DUPLEX</td><td>Duplex unit</td></tr>
</table>
When an optional paper feed device is not installed, the corresponding count is not displayed.
Clearing
1. Select the count to be cleared. The selected item is displayed in reverse.
To clear the counts for all paper feed locations, press the reset key.
2. Press the start key. The count is cleared.
When clearing all counts, the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U903</td><td>
Checking/clearing the paper jam counts
Description
Displays or clears the jam counts by jam locations.
Purpose
To check the paper jam status. Also to clear the jam counts after replacing consumable parts.
Start
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>COUNT</td><td>Displays/clears the jam counts</td></tr>
<tr><td>TOTAL COUNT</td><td>Displays the total jam counts</td></tr>
</table>
Method: Displays/clears the jam counts
1. Select COUNT at the screen for selecting an item.
The count for jam detection by type is displayed.
2. Change the screen using the * or # keys.
Select the counts for all jam codes and press the reset key.
Press the start key. The count is cleared.
Method: Displays the total jam counts
1. Select TOTAL COUNT at the screen for selecting an item.
2. Change the screen using the * or # keys.
The total number of jam count cannot be cleared.
To return to the screen for selecting an item, press the stop clear key.
Completion
To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U904	**Checking/clearing the call for service counts** **Description** Displays or clears the service call code counts by types. **Purpose** To check the service call code status by types. Also to clear the service call code counts after replacing consumable parts. **Start** Press the start key. The screen for selecting an item is displayed.

Display	Description
COUNT	Displays/clears the call for service counts
TOTAL COUNT	Displays the total call for service counts

Method: Displays/clears the call for service counts

1. Select COUNT in the screen for selecting an item.
   The count for call for service detection by type is displayed.
2. Change the screen using the * or # keys.
   To clear the counts for all service call, press the reset key and then press the start key. The count is cleared.

Method: Displays the total call for service counts

1. Select TOTAL COUNT in the screen for selecting an item.
   The total number of call for service counts by type is displayed.
2. Change the screen using the * or # keys.
   The total number of call for service count cannot be cleared.
   To return to the screen for selecting an item, press the stop clear key.

Completion

To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U905</td><td>
Checking/clearing counts by optional devices
Description
Displays or clears the counts of the DP or optional document finisher.
Purpose
To check the use of the DP and optional document finisher. Also to clear the counts after replacing consumable parts.
Method
1. Press the start key. The screen for selecting an item is displayed.
2. Select the device, the count of which is to be checked. The count of the selected device is displayed.
DP
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ADP</td><td>Number of single-sided originals that has passed through the DP</td></tr>
<tr><td>RADP</td><td>Number of double-sided originals that has passed through the DP</td></tr>
</table>
Document finisher
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CP CNT</td><td>Number of copies that has passed</td></tr>
<tr><td>STAPLE</td><td>Frequency the stapler has been activated</td></tr>
<tr><td>PUNCH</td><td>Frequency the punch has been activated</td></tr>
<tr><td>STACK</td><td>Frequency the stacker has been activated</td></tr>
<tr><td>SADDLE</td><td>Frequency the center holding has been activated</td></tr>
</table>
Clearing
1. Select the item to be cleared. The selected item is displayed in reverse.
To clear the counts for all, press the reset key.
2. Press the start key. The count is cleared.
To return to the screen for selecting an item, press the stop/clear key.
Completion
Press the stop/clear key at the screen for selecting an item.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U906</td><td>
Resetting partial operation control
Description
Resets the service call code for partial operation control.
Purpose
To be reset after partial operation is performed due to problems in the drawers or other sections, and the related parts are serviced.
Method
1. Press the start key.
2. Press EXECUTE on the touch panel.
3. Press the start key to reset partial operation control.
The maintenance mode is exited, and the machine returns to the same status as when the main power switch is turned on.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U907</td><td>
Checking/clearing the count value on each ejection location
Description
Displays and resets the count value of ejected sheets on each ejection location.
Purpose
Checks the replacement period for maintenance parts. Also resets the count value after replacing the maintenance parts.
Method
Press the start key. The screen for selecting an item is displayed.
The count value on each ejection location is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>STRAIGHT</td><td>Straight ejection count</td></tr>
<tr><td>SWITCH BACK</td><td>Reversed ejection count</td></tr>
<tr><td>AUTO DUPLEX</td><td>Duplex ejection count</td></tr>
</table>
Clearing
1. Select the count to be cleared. The selected item is displayed in reverse.
To clear the counts for all, press the reset key.
2. Press the start key. The count is cleared.
When clearing all counts, the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U908</td><td>
Checking the total counter value
Description
Displays the total counter value.
Purpose
To check the total counter value.
Method
Press the start key. The screen for total count value is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U909</td><td>
Checking/clearing the fuser web count
Description
Displays and clears the count of the fuser web roller operation.
Purpose
To clear the fuser web counts after replacing the fuser web roller during maintenance or for other reasons.
Method
Press the start key.
Clearing
1. Press the reset key.
2. Press the start key. The value is cleared. The screen for selecting a maintenance item No. is displayed.
Setting
1. Enter a seven-digit value using the numeric keys.
2. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U910	**Clearing the black ratio data** **Description** Clears the accumulated black ratio data for A4 sheet. **Purpose** To clear data as required at times such as during maintenance service. **Method** 1. Press the start key. 2. Press CANCEL on the touch panel. 3. Press the start key. The accumulated black ratio data is cleared, and the screen for selecting a maintenance item is displayed. **Completion** To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item is displayed.
U911	**Checking/clearing copy counts by paper sizes** **Description** Displays and clears the paper feed counts by paper sizes. **Purpose** To check or clear the counts after replacing consumable parts. **Method** Press the start key. The screen for the paper feed counts by paper size is displayed. **Clearing** 1. Select the paper size. The selected item is displayed in reverse. To clear all counts, press the reset key. 2. Press the start key. The count is cleared. When clearing all counts, the screen for selecting a maintenance item is displayed. **Completion** To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
U920	**Checking the copy counts** **Description** Checks the copy counts. **Purpose** To check the copy counts. **Method** Press the start key. The current counts of copy counter and printer counter are displayed. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
U921	**Checking/clearing the waste toner box count** **Description** Displays and clears the value of waste toner box count. **Purpose** To check the period of replacement of waste toner box. Also to clear the count value after replacement. **Method** Press the start key. The count value of a waste toner box is displayed. **Clearing** 1. Press the reset key. 2. Press the start key. The value is cleared. The screen for selecting a maintenance item No. is displayed. **Completion** To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance No. item is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U922</td><td>
Checking/clearing the solenoid count value
Description
Displays and clears the count value of solenoid.
Purpose
To check the period of replacement of solenoid. Also to clear the count value after replacement.
Method
Press the start key.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FS SOL COUNT</td><td>Feedshift solenoid (FSSOL)</td></tr>
<tr><td>DUP SB SOL COUNT</td><td>Duplex switchback solenoid (DUPSBSOL)</td></tr>
</table>
Clearing
1. Press the reset key.
2. Press the start key. The value is cleared. The screen for selecting a maintenance item No. is displayed.
Setting
1. Select the item to be changed.
2. Enter a seven-digit value using the numeric keys.
3. Press the start key. The value is set. The screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance No. item is displayed.
</td></tr>
<tr><td>U925</td><td>
Checking/clearing the system error counts
Description
Displays and clears the count value of system error.
Purpose
To check the system error status by types.
Also to clear the service call code counts after replacing consumable parts.
Method
Press the start key. The count for system error detection by type is displayed.
Clearing
1. Select the counts for all system error and press the reset key.
2. Press the start key. The count is cleared.
Completion
To exit this maintenance item without changing the count, press the stop/clear key.
The screen for selecting a maintenance No. item is displayed.
</td></tr>
<tr><td>U927</td><td>
Clearing the all copy counts and machine life counts
Description
Resets all of the counts back to zero.
Supplement
The total account counter and the machine life counter can be cleared only once if all count values are 1000 or less.
Method
1. Press the start key. The screen for executing is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key. All copy counts and machine life counts are cleared.
CANNOT EXECUTE is displayed if the count cannot be cleared.
Completion
To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U928</td><td>
Checking machine life counts
Description
Displays the machine life counts.
Purpose
To check the machine life counts.
Method
Press the start key. The current machine life counts is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U935</td><td>
Relay board maintenance
Description
Sets the machine status temporarily when call for service (C0060 and C0330) occurs. However, after the setting, call for service (C0060 and C0330) occurs again when progress of period.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select the item to be set. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE 0</td><td>Setting mode: OFF</td></tr>
<tr><td>MODE 1</td><td>Setting mode: 60 cpm machine status</td></tr>
<tr><td>MODE 2</td><td>Setting mode: 80 cpm machine status</td></tr>
</table>
Initial setting: MODE 0
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
Supplement
After removing the cause of the problem, be sure to change the setting in OFF.
</td></tr>
<tr><td>U954</td><td>
Setting the type of cooling fan
Description
Sets the new or old type of cooling fan.
Purpose
To change the setting according to the type of the cooling fan.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select NEW or OLD. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>NEW</td><td>New type of cooling fan</td></tr>
<tr><td>OLD</td><td>Old type of cooling fan</td></tr>
</table>
Initial setting: NEW
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

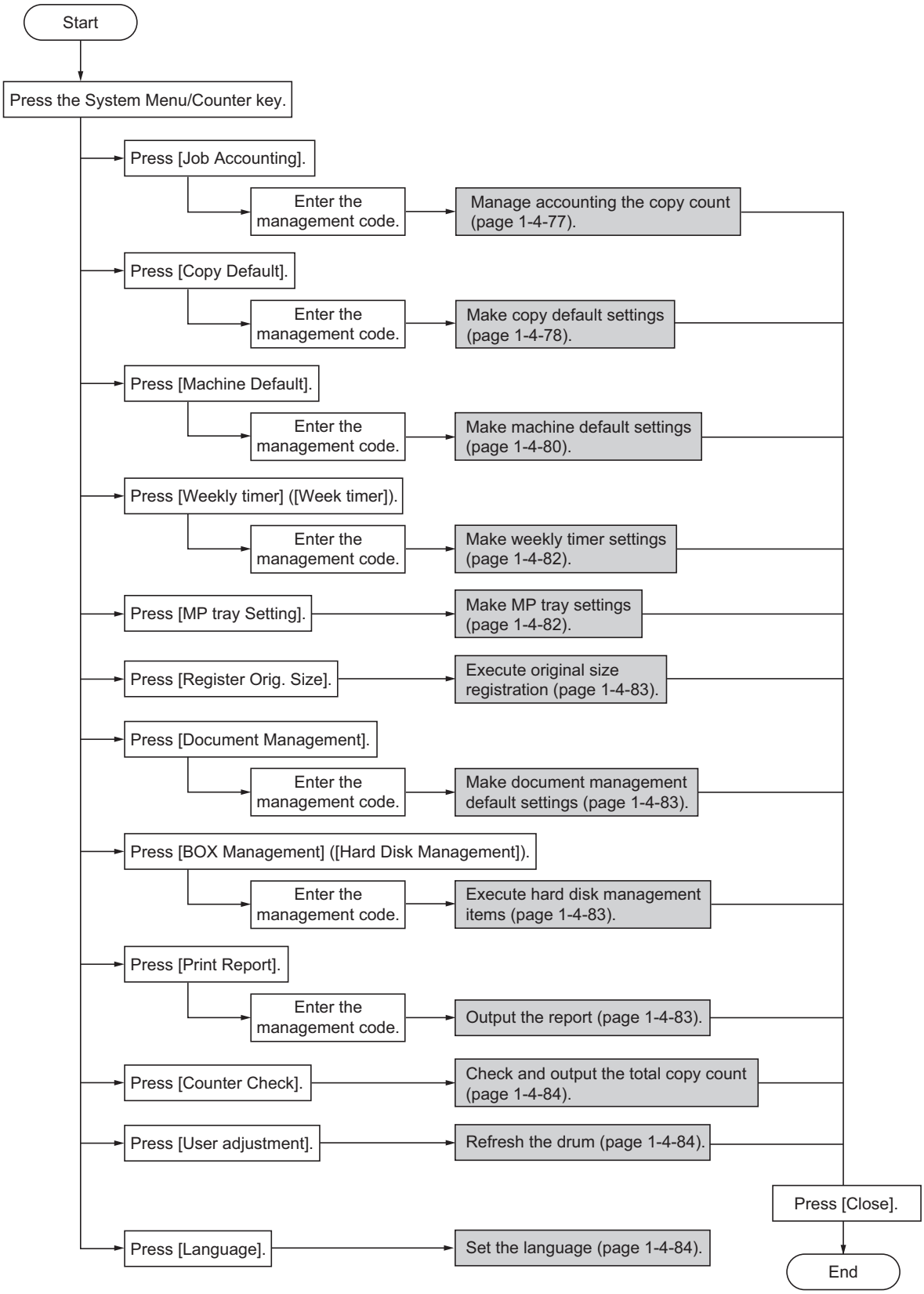
<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U965</td><td>
Setting the cassette disconnection
Description
Sets whether or not cancellation of cassette disconnection with the reset key is enabled after abnormal cassette has been detected.
Purpose
Enables cancellation of cassette disconnection by user.
Method
Press the start key. The screen for selecting an item is displayed.
Setting
1. Select ON or OFF. The selected item is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Enables cancellation of cassette disconnection with the reset key on.</td></tr>
<tr><td>OFF</td><td>Normal cancellation of disconnection</td></tr>
</table>
Initial setting: OFF
If the setting is turned on, when a cassette in the failure disconnection state due to abnormal cassette detection is selected, [Press Reset key only once] is displayed.
2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the current setting, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U984</td><td>
Checking the developing unit number
Description
Displays the developing unit number.
Purpose
To check the developing unit number.
Method
Press the start key. The number is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U985</td><td>
Displaying the developing unit history
Description
Indicates the past record of machine number and the developing counter.
Purpose
To check the machine number and the developing counter.
Method
Press the start key. The history of a machine number and a developing counter is displayed by five cases.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U986</td><td>
Checking the cleaning unit number
Description
Displays the cleaning unit number.
Purpose
To check the cleaning unit number.
Method
Press the start key. The number is displayed.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U987</td><td>
Displaying the cleaning unit history
Description
Indicates the past record of machine number and the cleaning counter.
Purpose
To check the machine number and the cleaning counter.
Method
Press the start key. The history of a machine number and a cleaning counter is displayed by five cases.
Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U989</td><td>
HDD Scandisk
Description
Restores data in the hard disk by scanning the disk.
Purpose
If power is turned off while accessing to the hard disk is performed, the control information in the hard disk drive may be damaged. Use this mode to restore the data.
Method
1. Press the start key. The screen for executing is displayed.
2. Press EXECUTE on the touch panel. It is displayed in reverse.
3. Press the start key. When scanning of the disk is complete, the execution result is displayed.
4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without executing scandisk, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U990</td><td>
Checking/clearing the time for the exposure lamp to light
Description
Displays, clears or changes the accumulated time for the exposure lamp to light.
Purpose
To check duration of use of the exposure lamp. Also to clear the accumulated time for the lamp after replacement.
Method
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>Accumulated time for the exposure lamp</td></tr>
<tr><td>CIS</td><td>Accumulated time for CIS</td></tr>
</table>
The accumulated time of illumination for the exposure lamp is displayed in minutes.
Clearing
1. Select the item to be cleared.
2. Press the reset key.
3. Press the start key. The accumulated time is cleared, and the screen for selecting a maintenance item No. is displayed.
Setting
1. Select the item to be cleared.
2. Enter a seven-digit accumulated time using the numeric keys.
3. Press the start key. The time is set, and the screen for selecting a maintenance item No. is displayed.
Completion
To exit this maintenance item without changing the accumulated time, press the stop/clear key.
The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U991</td><td>
Checking the scanner operation count
Description
Displays the scanner operation count.
Purpose
To check the status of use of the scanner.
Method
Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>COPY SCAN COUNT</td><td>Counts of scanner operation</td></tr>
<tr><td>NT SCAN COUNT</td><td>Counts of network scanner operation</td></tr>
</table>
Completion
Press the stop/clear key. The screen for selecting a maintenance No. item is displayed.
</td></tr>
</table>

1-4-1 Copier management

In addition to a maintenance function for service, the copier is equipped with a management function which can be operated by users (mainly by the copier administrator). In this copier management mode, settings such as default settings can be changed.

(1) Using the copier management mode


Start
Press the System Menu/Counter key.
Press [Job Accounting].
Enter the management code.
Manage accounting the copy count (page 1-4-77).
Press [Copy Default].
Enter the management code.
Make copy default settings (page 1-4-78).
Press [Machine Default].
Enter the management code.
Make machine default settings (page 1-4-80).
Press [Weekly timer] ([Week timer]).
Enter the management code.
Make weekly timer settings (page 1-4-82).
Press [MP tray Setting].
Make MP tray settings (page 1-4-82).
Press [Register Orig. Size].
Execute original size registration (page 1-4-83).
Press [Document Management].
Enter the management code.
Make document management default settings (page 1-4-83).
Press [BOX Management] ([Hard Disk Management]).
Enter the management code.
Execute hard disk management items (page 1-4-83).
Press [Print Report].
Enter the management code.
Output the report (page 1-4-83).
Press [Counter Check].
Check and output the total copy count (page 1-4-84).
Press [User adjustment].
Refresh the drum (page 1-4-84).
Press [Close].
Press [Language].
Set the language (page 1-4-84).
End

(2) Job accounting

New account

Creates new accounts by entering an account ID code (of up to eight digits), account name, and restrictions on usage as desired.

1. Press [Management Edit].
2. Press [Register].
3. Select Account ID and press [Change #].
4. Enter the department ID code from 0 to 99999999 using the numeric keys.
5. Press [Close].
6. Select Name to display and press [Change #].
7. Enter the department name and press [End].
8. Press [Next].
9. Specify restrictions on copying and press [Registr.].

Deleting account

Deletes the department accounts registered.

1. Press [Management Edit].
2. Select the department ID code to delete and press [Delete].
3. Press [Yes].

Editing department information

Changes the name and ID code registered for the department.

1. Press [Management Edit].
2. Select the department ID code to edit and press [Mgt. Inf. Correction].
3. Select Account ID and press [Change #].
4. Press [Clear].
5. Enter the new ID code (up to eight digits) using the numeric keys.
6. Press [Close].
7. Select Name to display and press [Change #].
8. Press [AllDel.] and enter the new name.
9. Press [End].
10. Press [Close].

Changing restrictions on usage

Changes the restriction on copying and printing per individual department.

To restrict the number of copies, printouts, or scanned images during job accounting, turn Copy Job Accounting from [Off] to [On] in the job accounting default settings.

When the copier is equipped with the optional printer kit and/or the scanner kit, activate Printer Job Accounting and Scanner Job Accounting in the job accounting default settings.

1. Press [Management Edit].
2. Select the department ID code to change and press [Limit in use].
3. Select the restriction on copying and press [Close].

Total copy count

Tracks the total copy counts of all departments and print the total in the form of job accounting reports. The total copy count can be reset as necessary.

1. Press [Management Total]. The total copy count is displayed.
2. Press [Print Report] and select the report type to print this information as a copy management report.
3. Press [Report by Function] to count a list of reports by function.
4. Press [Report by Size] in the total count by size setting of the job accounting default settings for a list of reports by copy paper size.
5. To reset the copy volume, press [Counter clear].
6. Press [Yes].

Copy count by department

Tracks the copy count per individual department. The copy count per department can be reset as necessary.

1. Press [Each Mgt. Total].
2. Select the ID-code of the department and press [Total]. The copy count of the selected department is displayed.
3. To reset the copy count, press [Counter clear].
4. Press [Yes].
5. Press [Close].

Activating and deactivating job accounting

Turns job accounting on or off as necessary.

1. Select [On] or [Off].
2. Press [Close].
3. Press [End].

Copy job accounting

Activates or deactivates job accounting for copy jobs.

1. Press [Job Accntg Def. Set.].
2. Select [Copy Job Accounting] and press [Change #].
3. Select [On] or [Off].
4. Press [Close].

Printer job accounting

Activates or deactivates job accounting when the copier is used as a printer.

This setting is displayed only if the copier is equipped with the optional printer kit.

1. Press [Job Accntg Def. Set.].
2. Select [Print. Job Accounting] and press [Change #].
3. Select [On] or [Off].
4. Press [Close].

Reports on printing errors

Sets whether an error report is printed in case that the user attempts to print using the incorrect department code.

This setting is displayed only if Printer Job Accounting is [On].

1. Press [Job Accntg Def. Set.].
2. Select [Reports for Printer error report] and press [Change #].
3. Select [On] or [Off].
4. Press [Close].

Printing from unregistered sources (printer)

Authorizes or prohibits printing from computers with printer drivers that do not support job accounting.
This setting is displayed only if Printer Job Accounting is [On].

1. Press [Job Accntg Def. Set.].
2. Select [Others Mgt. Reg. (print)] and press [Change #].
3. Select [On] or [Off].
4. Press [Close].

Copy/Printer output management

Select whether copying and printing are managed together or separately.

1. Press [Job Accntg Def. Set.].
2. Select [Copy/Printer output mgt] and press [Change #].
3. Select [All] or [Each].
4. Press [Close].

Scanner job accounting

Activates or deactivates job accounting when the copier is used for scanning.
This setting is displayed only if the copier is equipped with the optional scanner kit.

1. Press [Job Accntg Def. Set.].
2. Select [Scanner Job Accounting] and press [Change #].
3. Select [On] or [Off].
4. Press [Close].

Response to unauthorized requests

Sets the actions when users attempt to copy in excess of the specified copy limitation.

1. Press [Job Accntg Def. Set.].
2. Select [Excess of limit Setting] and press [Change #].
3. Select [Stop job immediately], [Stop after job done] or [Only warning].
4. Press [Close].

Default of copy limitation

Sets the default of copy limitation when registering a new department.

1. Press [Job Accntg Def. Set.].
2. Select [Def. Val. of coun. Limit] and press [Change #].
3. Enter the number of pages from 1 to 999,999 using the numeric keys.
4. Press [Close].

Total count by size, 1-5

Registers specific paper sizes and types of paper to check the copy count.

1. Press [Job Accntg Def. Set.].
2. Select [Total size 1-5] and press [Change #].
3. Press [On].
4. Press [Select size].
5. Select a paper size and press [Close].
6. To specify a paper type, press [Select Paper Type].
7. Select the paper type and press [Close].
8. Press [Close].

(3) Default settings for copying

Exposure mode

Exposure mode changes the default for how the copier adjust how dark or light copying is made.

1. Select [Exposure Mode] using the cursor up/down keys and press [Change #].
2. Select [Manual] or [Auto].

Exposure steps

Changes the number of intermediate steps for manual adjustment of exposure.

1. Select [Exposure Steps] using the cursor up/down keys and press [Change #].
2. Select [1 step] or [0.5 step].

Original image quality

Sets the default original quality.

1. Select [Original Image Quality] using the cursor up/down keys and press [Change #].
2. Select [Text+Photo], [Text], or [Photo].

EcoPrint

Selects whether to select EcoPrint on or off.

1. Select [EcoPrint] using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Adjusting background intensity

If the background on copies appears too dark, you can lighten it.

1. Select [Background exp. adj] using the cursor up/down keys and press [Change #].
2. Press [Lighter] or [Darker] to adjust the intensity. Setting range: -2 to +2

Adjusting thin lines

Depending on the using environment, paper or original, dragged stains may appear around horizontal thin lines in some cases. To eliminate these stains, use the [Thinner] setting in this option.

1. Select [Thin Line adjustment] using the cursor up/down keys and press [Change #].
2. Press [Thinner] or [Thicker] to adjust the line thickness (1 to 5).

Correcting fine black line

Configures the copier to make them less noticeable if the copied image has black streaks (dirty streaks not present on the original).

1. Select [Correct. fine black line] using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Selecting paper

Sets whether the copy paper is automatically selected according to the size of the original document or the copy paper in the default cassette is forcibly selected.

1. Select [Select Paper] using the cursor up/down keys and press [Change #].
2. Select [APS] or [Default drawer] ([Default cassette]).

Selecting copy paper for zooming

Automatically sets the copy paper according to the selected zooming level or according to the size of the original document.

1. Select [APS Setting] using the cursor up/down keys and press [Change #].
2. Select [Most Suit Size] or [Same as Orig. Size].

Selecting paper types for automatic paper selection

Sets the type of paper when the copier automatically selects the copy paper according to the size of the original.

1. Select [Select paper type (APS)] using the cursor up/down keys and press [Change #].
2. Press [On] and select the paper to type for automatic paper selection.
   Plain/Transparency/Rough/Vellum/Labels/Recycled/Preprinted/Bond/Cardstock/Color (Colour)/Prepunched/Letterhead/Thick paper/Envelope/High Quality/Custom 1-8

Selecting default cassette

Selects the cassette (1 to 5) to be used automatically. The MP tray is not available for the default cassette. [5th paper] is available when the copier is equipped with an optional side feeder.

1. Select [Default drawer (Default cassette)] using the cursor up/down keys and press [Change #].
2. Select the cassette.

Specifying cassette for cover paper

Sets the cassette which is automatically selected to feed cover paper during the cover or booklet mode is used.

[5th paper] is available when the copier is equipped with an optional side feeder.

1. Select [Drawer for cover paper] ([Cassette for cover paper]) using the cursor up/down keys and press [Change #].
2. Select the cassette.

Automatic zoom

When the sizes of the original document and the copy paper do not match, this determines whether the original is automatically zoomed to fit onto the copy paper.

1. Select [Auto % Priority Setting] using the cursor up/down keys and press [Change #].
2. Select [Off] or [On].

Adjusting auto exposure

Adjusting the median exposure for auto exposure by biasing the reference exposure.

1. Select [Adjust auto exposure] using the cursor up/down keys and press [Change #].
2. Press [Lighter] or [Darker] to adjust the exposure.
   Setting range: -3 to +3

Adjusting automatic exposure for scanning text documents

Adjusts the scanning exposure when the copier is installed with the option scanner.

1. Select [Adjust auto exposure (OCR)] using the cursor up/down keys and press [Change #].
2. Press [Lighter] or [Darker] to adjust the exposure.
   Setting range: -3 to +3

Adjusting manual exposure: Text+Photo mode

Adjusts the median value for the manual exposure range.

1. Select [Adj. Manual expo.(Mixed)] using the cursor up/down keys and press [Change #].
2. Press [Lighter] or [Darker] to adjust the exposure.
   Setting range: -3 to +3

Adjusting manual exposure: Text mode

Adjusts the median value for the manual exposure range.

1. Select [Adj. Manual expo.(Text)] using the cursor up/down keys and press [Change #].
2. Press [Lighter] or [Darker] to adjust the exposure.
   Setting range: -3 to +3

Adjusting manual exposure: Photo mode

Adjusts the median value for the manual exposure range.

1. Select [Adj. Manual expo.(Photo)] using the cursor up/down keys and press [Change #].
2. Press [Lighter] or [Darker] to adjust the exposure.
   Setting range: -3 to +3

Selecting default zoom

Sets whether to use automatic zoom.

1. Select [Reduce/Enlarge] using the cursor up/down keys and press [Change #].
2. Select [Auto %] or [100%].

Selecting sorting and offsetting output

Sets sorting and/or offsetting output as the default output.

1. Select [Sort/Offset (Sort/Group)] using the cursor up/down keys and press [Change #].
2. Select Sort and Offset [On] or [Off].

Selecting auto rotation

Sets whether the automatic rotation by default.

1. Select [Auto Rotation] using the cursor up/down keys and press [Change #].
2. Select [No Rotate] or [Rotate].

Default margin

Sets the default margins for copying.

1. Select [Default margin width] using the cursor up/down keys and press [Change #].
2. Specify the default margin for each side using cursor up/down or left/right keys.
   Setting range
   Inch specifications: 0 to 3/4" (in 1/8" increments)
   Metric specifications: 0 to 18 mm (in 1-mm increments)

Erasing borders

Sets the width for erasing borders.

1. Select [Default erase width] using the cursor up/down keys and press [Change #].
2. Press [+] and [-] to specify the widths to erase the borders.
   Setting range
   Inch specifications: 0 to 2" (in 1/8" increments)
   Metric specifications: 0 to 50 mm (in 1-mm increments)

Selecting maximum number of copies

Limits the maximum number of copies.

1. Select [Preset limit] using the cursor up/down keys and press [Change #].
2. Enter the maximum number of copies from 1 to 9999 using the numeric keys.

Enabling repeat copy

Enables or disables repeat copy and set it as the default.

This setting is not available when the copier is equipped with the optional security kit.

1. Select [Repeat Copy] using the cursor up/down keys and press [Change #].
2. Select [Off] or [On] under Function.
3. Select [Off] or [On] under Default.

Enabling job history display

Enables or disables the [Job History] screen in output managements.

1. Select [Job Queue Report] using the cursor up/down keys and press [Change #].
2. Select [Off], [On/All job] or [On/reserved] ([On/Reserv.job]).

Enabling [Shortcut] ([Register]) key

Enables the [Shortcut] ([Register]) keys so that it is displayed while various operations are made on the touch panel.

1. Select [Display register key] ([Display"Register"key]) using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Customizing basic functions screen

Customizes the layout of the basic functions screen.

1. Select [Customize (Basic Screen)] ([Customize (Main function)]) using the cursor up/down keys and press [Change #].
2. Move the item using the cursor up/down keys, [Move Ahead] or [Move Behind] ([Move Backward]).

Customizing additional functions screen

Customizes the layout of the additional functions screen.

1. Select [Customize (User Choice)] ([Customize (Add function)]) using the cursor up/down keys and press [Change #].
2. Highlight the menu item on the right-side frame using the cursor up/down keys.
3. Press [←] to move the item to the left-side frame according to the corresponding number.

(4) Common default settings

Enabling auto cassette switching

If the cassette in use runs out of paper, the copier can continue copying by automatically switching to another cassette loaded with the paper of the same size and orientation. You can specify not to switch to the cassette if the paper type differs.

1. Select [Auto drawer switching] ([Auto cassette switching]) using the cursor up/down keys and press [Change #].
2. Select [Off] or [On] under Function.
3. Select [All types of paper] or [Feed same paper type] under Paper Type.

Selecting paper size

Sets the paper size for the cassettes 3 and 4.

1. Select [Paper size [3rd drawer]] ([Paper size [3rd cassette]]) or [Paper size [4th drawer]] ([Paper size [4th cassette]]) using the cursor up/down keys and press [Change #].
2. When [Auto Detection] is selected, select the unit of measurement.
   When [Standard sizes] is selected, select the paper size.

Selecting paper type

Sets the paper type to the cassettes 1 to 5.

5th drawer (5th cassette) is available when the copier is equipped with the optional side feeder.

1. Select [Paper type [1st drawer]] ([Paper type [1st cassette]]) through [Paper type [5th drawer]] ([Paper type [5th cassette]]) using the cursor up/down keys and press [Change #].
2. Select the paper type.
   Plain/Recycled/Preprinted/Bond/Color (Colour)/Letterhead/Thick paper/High Quality/Custom 1-8

Enabling quick access to MP tray settings

Checks MP tray sizing allows quick access to the MP tray setting screen when the MP tray is selected for copying.

1. Select [Check MP tray sizing] using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Specifying the paper weight to the paper type

Assigns one of the paper weights to the paper type.

1. Select [Paper Type (paper weight)] using the cursor up/down keys and press [Change #].
2. Select the paper type to specify the weight using the cursor up/down keys and press [Change #].
3. Select the paper weight.
   Extra Heavy/Heavy3/Heavy2/Heavy1/Normal3/Normal2/Normal1/Light (Thin)
   Extra Heavy - OHP sheet/Heavy3 - from 171 g/m^2 to 209 g/m^2/Heavy2 - from 136 g/m^2 to 170 g/m^2/Heavy1 - from 106 g/m^2 to 135 g/m^2/Normal3 - from 91 g/m^2 to 105 g/m^2/Normal2 - from 76 g/m2 to 90 g/m^2/Normal1 - from 60 g/m^2 to 75 g/m^2/Light (Thin) - from 60 g/m^2 to 64 g/m^2
4. Press [Close].

Allowing duplex copying to custom paper type

Determines whether duplex copying is allowed to the custom paper type.

1. Select [Select paper type(2sided)] using the cursor up/down keys and press [Change #].
2. Select from [Custom 1] through [Custom 8] and press [Change #].
3. Select [On] or [Off].
4. Press [Close].

Making copying on letterhead paper easy

Copying the original onto letterhead paper requires that the orientation of the original and the target paper match with each other. By switching [Adj(usting). Print Direction] on, the copier correctly prints the original onto the letterhead paper when the original and the letterhead paper are aligned with each other in the same orientation on the contact glass and in the cassette. This function also applies to prepunched and preprinted paper.

1. Select [Special paper action mode] ([Specif. paper action mode]) using the cursor up/down keys and press [Change #].
2. Select [Adj. Print Direction] or [Speed Priority].

Auto detect originals

Predetermines what paper size is selected for printing when copying an original document of non-standard sizes.

This setting is only available for metric specifications.

1. Select [Org. Auto Detect Setting] using the cursor up/down keys and press [Change #].
2. Select the paper size using the cursor up/down keys and press [Change #].
   When the size of the original document is cardstock or A6R, select [Cardstock] or [A6].
   When the size of the original document is B4R or Folio, select [B4] or [Folio].
   When the size of the original document is 11 x 15" (computer form), select [On] or [Off].
3. Press [Close].

Orientation of original document

Sets the orientation of the original document on the contact glass.

1. Select [Orig. Set Direction] using the cursor up/down keys and press [Change #].
2. Select [Top Edge] ([Back Edge]) or [Left Top Edge] ([Left top corner]).

Setting sleep timer timeout

Predetermines the period of time before the copier enters sleeping.

If the copier is used frequently, we recommend using a longer timeout. If it is used infrequently, use a shorter timeout.

1. Select [Sleep mode changing time] using the cursor up/down keys and press [Change #].
2. Set the time using [+] or [-] key.
   Setting range: 1 to 240 minutes

Setting Low-Power timer timeout

Sets the period of time before the copier enters Low-Power mode.

1. Select [Low power mode chng. time] using the cursor up/down keys and press [Change #].
2. Set the time using [+] or [-] key.
   Setting range: 1 to 240 minutes

Setting auto clear timeout time

Sets the period after copying before the copier automatically clears the previous settings.

1. Select [Auto Clear Time Setting] using the cursor up/down keys and press [Change #].
2. Set the time using [+] or [-] key.
   Setting range: 10 to 270 seconds

Selecting output destination

Sets the default destination for finished copies.

This setting is available when the copier is equipped with the optional document finisher.

1. Select [Select Copy output mode] using the cursor up/down keys and press [Change #].
2. Select the desired output destination.
   Auto/Tray A /Tray B/Tray 1/Tray 2/Tray 3/Tray 4/Tray 5

Activating operation panel sound

Activates the sound for confirmation when the operation panel keys are pressed.

1. Select [Key sound ON/OFF] using the cursor up/down keys and press [Change #].
2. Select [Off] or [On].

Enabling silent mode

The silent mode lets the copier deactivate the ventilating fans for quieter operation.

1. Select [Silent Mode] using the cursor up/down keys and press [Change #].
2. Select [Off] or [On].

Adjusting date and time

Sets the date and time.

Before proceeding to adjust the date and time, complete Setting Time Difference (Time Zone).

1. Select [Date/Time] using the cursor up/down keys and press [Change #].
2. Specify [Year], [Month], [Day] and [Time] using the [+] or [-] key.
   To specify summertime (daylight saving), press [On].

Setting time difference (time zone)

Sets the time zone in reference to Greenwich Mean Time.

1. Select [Time difference] using the cursor up/down keys and press [Change #].
2. Select the time zone using the [+] or [-] key.

Changing management code

Changes the management code.

The default management code is 8000 for 80 cpm model and 6000 for 60 cpm model.

When installing the optional security kit, the default management code is 60006000 for 60 cpm model and 80008000 for 80 cpm model.

1. Select [Management code change] ([Change MGMT code with #]) using the cursor up/down keys and press [Change #].
2. Enter the new management code using the numeric keys.
   The new management code must be a number comprising of four digits from 0000 to 9999.
   When installing the optional security kit, the new management code must be a number comprising of eight digits from 00000000 to 99999999.

Activating auto sleep

Activates the sleep mode.

1. Select [Auto sleep] using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Activating auto clear

When this setting is activated, the copier reverts to the state after warm-up if no copies are made.

1. Select [Auto Clear] using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Prioritizing copying over printing

Assigns a higher priority to processing copying jobs than printing jobs.

1. Select [Copy Job Priority] using the cursor up/down keys and press [Change #].
2. Select [On] or [Off].

Erasing hard disk contents

Sets the method for erasing the contents of the hard disk when the copier is equipped with the optional security kit.

1. Select [Hard Disk Delete Method] using the cursor up/down keys and press [Change #].
2. Select [Once Overwrite] or [3-time Overwrite].

(5) Weekly timer

Weekly timer

Sets the time to turn on and off the copier for each day of the week.

1. Select the day to program the timer and press [Change #].
2. To turn on and off the copier at a specific time of day, press [Select work time].
   Specify the time to turn on the copier in SW ON.
   Specify the time to turn off the copier in SW OFF.
   To turn on the copier all the time for the day, press [All day-ON].
   To turn off the copier all the time for the day, press [All day-OFF].
3. To program the timer for the other days, repeat steps 1 to 2.

Temporarily cancel the weekly timer

Cancels the weekly timer for the specific days.

1. Select the day and press [Change #].
2. Press [On].
3. To cancel the weekly timer for other days, repeat steps 1 to 2.

Weekly timer On/Off

Activates or deactivates the weekly timer.

1. Select [On] or [Off].
2. Press [Close].
3. Press [End].

(6) Configuring MP tray

Specifying the paper size to the MP tray

Auto detect

1. Press [Auto Detection].
2. Select [Centimeter] or [Inch].

Other standard sizes

Sets special standard sizes.

1. Press [Others Standard] and then [Select size].
2. Select the paper size.
3. Press [Close].

Input size

Sets the required paper size.

1. Press [Input size].
2. Specify the vertical size using the [+] or [-] key.
   Metric specifications only
   Enter the size directly using the numeric keys by pressing [#-Keys].
   Setting range
   Inch specifications: 3 7/8" to 11 5/8" (in 1/8" increments)
   Metric specifications: 98 to 297 mm (in 1-mm increments)
3. Specify the horizontal size using the [+] or [-] key.
   Metric specifications only
   Enter the size directly using the numeric keys by pressing [#-Keys].
   Setting range
   Inch specifications: 5 7/8" to 17" (in 1/8" increments)
   Metric specifications: 148 to 432 mm (in 1-mm increments)

Specifying the paper type to the MP tray

Sets the paper type when using the MP tray.

1. Press [Select Paper Type].
2. Select the paper type.
   Plain/Transparency/Rough/Vellum/Labels/Recycled/Preprinted/Bond/Cardstock/Color (Colour)/Prepunched/Letterhead/Thick paper/Envelope/High Quality/Custom 1-8
3. Press [Close].

(7) Registering non-standard sizes for originals

Registers up to four non-standard sizes for the original documents of non-standard size.

1. Press [Register Orig. Size].
2. Select the one of the four custom sizes available (1 to 4) and press [Change #].
3. Press [On].
4. Specify the vertical size (Y) as the height using the [+] or [-] key.
   Setting range
   Inch specifications: 2" to 11 5/8"
   Metric specifications: 50 to 297 mm
5. Specify the horizontal size (X) as the width using the [+] or [-] key.
   Setting range
   Inch specifications: 2" to 17"
   Metric specifications: 50 to 432 mm

(8) Setting document management defaults

Print document list

Prints a list of documents in the form box, shared data box and synergy print box.
Before printing lists, be sure that the cassette is loaded with 11" x 8 1/2" (or A4) paper.

1. Press [Print the list] under the specific data box.
2. The list for the data box is printed.

Resetting document box

Deletes all documents in the form box, shared data box or synergy print box.

1. Press [Reset Box] for the box to be initialized.
2. Press [Yes].
   All documents contained in the box are deleted.

Specifying name and password to document box

Names the document boxes in the synergy print box and specify a password. Once a password is specified, printing or deleting a document in the synergy print box prompts you to enter the password.

1. Press [Box Editing].
2. Select the box to specify a password.
   To select the box, directly press the touch panel key, or enter the number on the numeric keys followed by [Enter].
   To name the box, select [Box name] and press [Change #].
3. Enter the box name and press [End].
4. Specify the password to the box.
5. Select [Password] and press [Change #].
6. Enter the password using the numeric keys and press [Close].
   The password should be a number up to 8 digits.
   If you prefer not to specify a password, press [Clear]. Press [Enter].
7. Press [Close].
8. To specify a name and a password to the other boxes, repeat steps 2 and 7.
9. Press [Cancel].

Deleting all documents in box

Deletes all documents in the synergy print boxes at once.

1. Press [Box Editing].
2. Select the box containing the documents to be deleted.
   To select the box, directly press the touch panel key, or enter the number using the numeric keys followed by [Enter].
3. Press [Reset Box].
4. Press [Yes].
   All documents in the box will be deleted.
5. Press [Close].
6. Press [Cancel].

Specifying period to store documents

By specifying period to store the documents in the synergy print box, the documents can be automatically deleted after the period.

1. Press [Document save term] ([Document saving]).
2. Press [Set saving term] ([Set save period]).
   Specify the period store the documents using [+] or [-] key.
   Setting range: 1 to 7 days.
   To indefinitely store the documents, press [No time limit].

(9) Hard disk management

Checks the free space on the hard disk or delete the unwanted data to free up the space.

1. To check the free space on the hard disk and the total capacity, press [On] under [Check HDD capacity] (on the left side of the touch panel).
   To delete the unwanted data, press [On] under [Delete invalid data] (on the right side of the touch panel).

(10) Printing reports

Prints the following reports using the operation panel.
Copy status report
Machine status report
Toner coverage report
Before printing reports, be sure that the cassette is loaded with 11" x 8 1/2" (or A4) paper.
The toner coverage report indicates the number of copying volume that has been made. It also shows the black toner coverage in percentage for individual paper sizes including the following.
Total toner coverage
Toner coverage for copying
Toner coverage for printing

1. Press the appropriate key to print the report.
   The report is printed.

(11) Checking total copy count

Checks the total copy count on the operation panel and print this information as a counter report.
Before printing reports, be sure that the cassette is loaded with 11" x 8 1/2" (or A4) paper.

1. Press [Counter Check].
   The touch panel will display the total count for copying and scanning.
2. To print the total count information, press [Print Report].
   Press [Close].

(12) Refreshing the drum

Refreshing the drum is recommended if images on copies appear blurred or warped, or if blank areas appear.
Load the paper of size 11" x 8 1/2" (or A4) or 11 x 17" (or A3) in the MP tray.

1. Press [Drum refresh].
2. Press [On] to start refreshing the drum.
   The process takes approx. one minute.

(13) Selecting the language

Select the language displayed on the touch panel.

1. Press [Language].
2. Press the key for the desired language.
   Inch specifications: English/French/Spanish/Japanese
   Metric specifications: English/German/French/Spanish/Italian
   The touch panel language will change accordingly.

1-5-1 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the copier immediately stops copying and displays the jam location on the operation panel.
Paper misfeed counts sorted by the detection condition can be checked in maintenance item U903.
To remove paper jammed in the copier, open front cover, right cover or paper cassette.
To clear a jam in the duplex section, draw out the duplex unit.
When paper is jammed in the DP, open the document processor top cover or document processor bottom cover.
Paper misfeed detection can be reset by opening and closing the respective covers to open/close switches off and on.

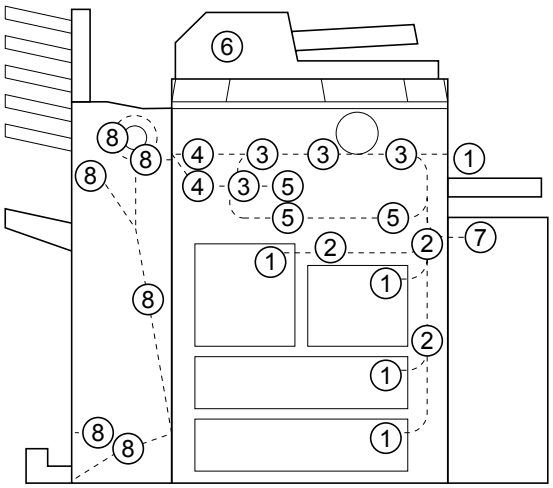


Figure 1-5-1

(1) Misfeed in the paper feed section
(2) Misfeed in the paper conveying section
(3) Misfeed in the fuser section
(4) Misfeed in the eject section
(5) Misfeed in the duplex section
(6) Misfeed in the DP
(7) Misfeed in the optional side feeder
(8) Misfeed in the optional document finisher

(2) Paper misfeed detection conditions

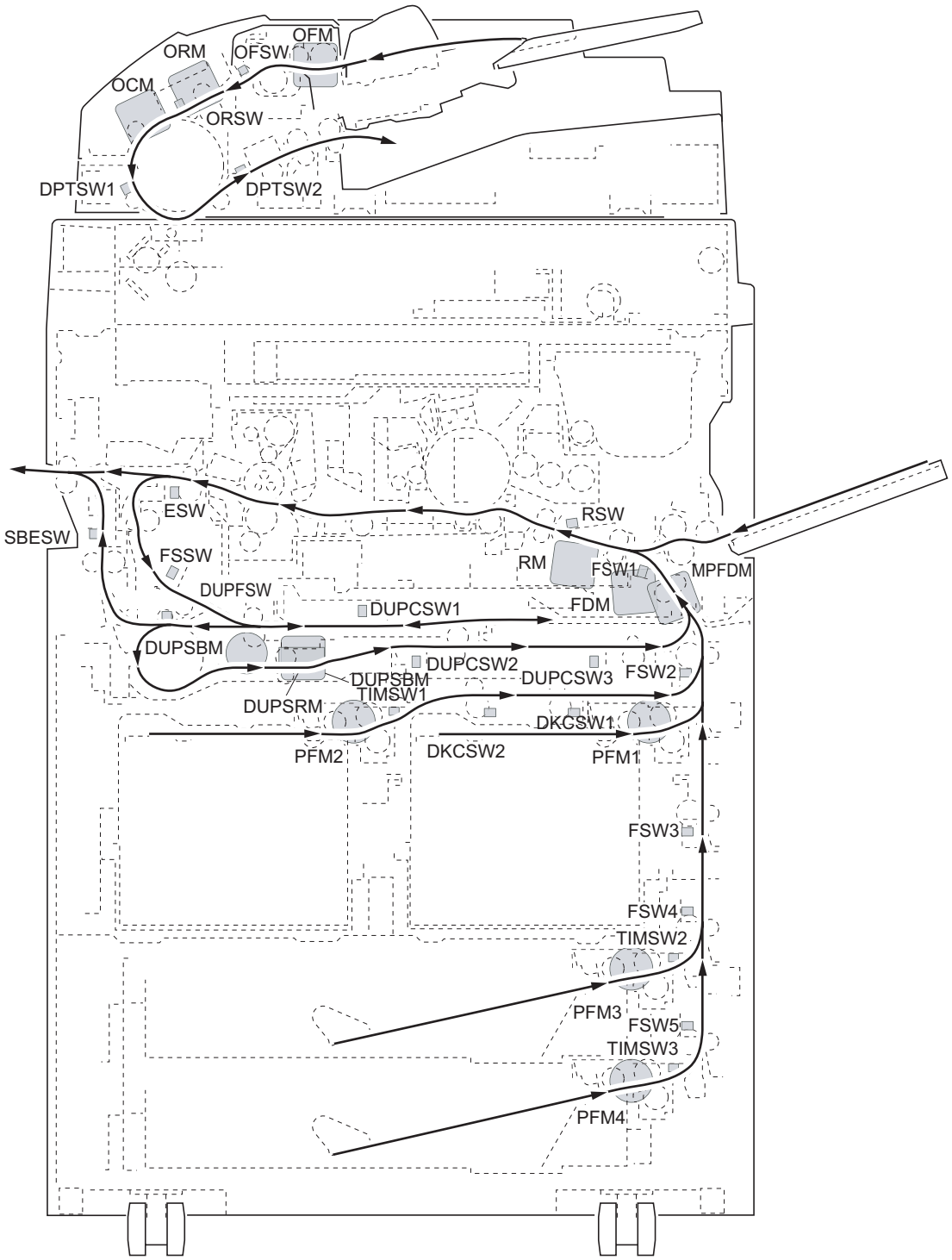


Figure 1-5-2

Section	Jam code	Description	Conditions
System	04	Cover open	Cover is open during copying.
	05	Memory read ready time-out	Secondary paper feed does not start even if 30 s elapse after the registration switch (RSW) is turned on and primary paper feed is complete.
	06	Main charger error	An error signal is generated continuously more than 400 ms when the main charger is turned on during printing.
Paper feed section	10	No paper feed from cassette 1	Feed switch 2 (FSW2) does not turn on within 480 ms of paper feed motor 1 (PFM1) turning on.
	11	No paper feed from cassette 2	Timing switch 1 (TIMSW1) does not turn on within 200 ms of the paper feed motor 2 (PFM2) turning on.
	12	No paper feed from cassette 3	Timing switch 2 (TIMSW2) does not turn on within specified time <330 ms (240 ms) for 80 cpm/430 ms (240 ms) for 60 cpm> of paper feed motor 3 (PFM3) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	13	No paper feed from cassette 4	Timing switch 3 (TIMSW3) does not turn on within specified time <330 ms (240 ms) for 80 cpm/430 ms (240 ms) for 60 cpm> of paper feed motor 4 (PFM4) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	14	No paper feed from side feeder	Side feeder feed switch (SFFSW) does not turn on within 2000 ms of the side feeder paper feed clutch (SFPFCL) turning on; the clutch is then successively held off for 50 ms and turned back on twice, but the switch again fails to turn on within 848 ms.
	15	No paper feed from MP tray	Feed switch 1 (FSW1) does not turn on within specified time (500 ms for 80 cpm/643 ms for 60 cpm) of the MP feed motor (MPFDM) turning on.
	19	Misfeed in copier vertical paper conveying section 2	Feed switch 4 (FSW4) does not turn on within specified time <330 ms (240 ms) for 80 cpm/430 ms (240 ms) for 60 cpm> of timing switch 2 (TIMSW2) turning on. Feed switch 5 (FSW5) does not turn on within specified time <330 ms (240 ms) for 80 cpm/430 ms (240 ms) for 60 cpm> of timing switch 3 (TIMSW3) turning on. Feed switch 4 (FSW4) does not turn on within specified time <500 ms (400 ms) for 80 cpm/650 ms (400 ms) for 60 cpm> of feed switch 5 (FSW5) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	20	Misfeed in copier vertical paper conveying section 3	Feed switch 3 (FSW3) does not turn on within specified time <500 ms (400 ms) for 80 cpm/650 ms (400 ms) for 60 cpm> of feed switch 4 (FSW4) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.

Section	Jam code	Description	Conditions
Paper feed section	21	Misfeed in copier vertical paper conveying section 4	Feed switch 2 (FSW2) does not turn on within 1500 ms of deck convaying switch 1 (DKCSW1) turning on (when paper is fed from cassette 2). Feed switch 2 (FSW2) does not turn on within specified time <1590 ms (1166 ms) for 80 cpm/2046 ms (1166 ms) for 60 cpm> of feed switch 4 (FSW4) turning on (when paper is fed from cassette 3). Feed switch 2 (FSW2) does not turn on within specified time <2045 ms (1500 ms) for 80 cpm/2631 ms (1500 ms) for 60 cpm> of feed switch 5 (FSW5) turning on (when paper is fed from cassette 3). * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	23	Misfeed in deck paper conveying section 2	Deck conveying switch 2 (DKCSW2) does not turn on within 300 ms of deck conveying switch 1 (DKCSW1) turning on. Deck conveying switch 1 (DKCSW1) does not turn on within 280 ms of timing switch 1 (TIMSW1) turning on.
	24	Multiple sheets in cassette paper feed section 1	Timing switch 3 (TIMSW3) does not turn off within specified time <2000 ms (720 ms) for 80 cpm/2500 ms (720 ms) for 60 cpm> of its turning on. Feed switch 5 (FSW5) does not turn on within specified time <1590 ms (1166 ms) for 80 cpm/2046 ms (1166 ms) for 60 cpm> of timing switch 3 (TIMSW3) turning off. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	25	Multiple sheets in cassette paper feed section 2	Timing switch 2 (TIMSW2) does not turn off within specified time <2000 ms (720 ms) for 80 cpm/2500 ms (720 ms) for 60 cpm> of its turning on (when paper is fed from cassette 3). Feed switch 4 (FSW4) does not turn off within specified time <550 ms (400 ms) for 80 cpm/650 ms (400 ms) for 60 cpm> of timing switch 2 (TIMSW2) turning off (when paper is fed from cassette 3). Feed switch 4 (FSW4) does not turn off within specified time <550 ms (400 ms) for 80 cpm/650 ms (400 ms) for 60 cpm> of feed switch 5 (FSW5) turning off (when paper is fed from cassette 4). * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	26	Multiple sheets in cassette paper feed section 3	Feed switch 3 (FSW3) does not turn off within specified time <550 ms (400 ms) for 80 cpm/650 ms (400 ms) for 60 cpm> of feed switch 4 (FSW4) turning off. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.

Section	Jam code	Description	Conditions
Paper feed section	27	Multiple sheets in cassette paper feed section 4	Feed switch 2 (FSW2) does not turn off within 1300 ms of deck conveying switch 1 (DKCSW1) turning on. Feed switch 2 (FSW2) does not turn off within specified time <1100 ms (806 ms) for 80 cpm/1415 ms (806 ms) for 60 cpm> of feed switch 4 (FSW4) turning on. Feed switch 2 (FSW2) does not turn off within specified time <1500 ms (1100 ms) for 80 cpm/1929 ms (1100 ms) for 60 cpm> of feed switch 5 (FSW5) turning on. Feed switch 2 (FSW2) does not turn off within specified time <1890 ms (1386 ms) for 80 cpm/2432 ms (1386 ms) for 60 cpm> of its turning on. Feed switch 2 (FSW2) does not turn off within 670 ms of its turning on. Feed switch 2 (FSW2) does not turn off within 670 ms of deck conveying switch 2 (DKCSW2) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
Paper conveying section	28	Multiple sheets in deck paper feed section 1	Timing switch 1 (TIMSW1) does not turn off within 700 ms of its turning on. Deck conveying switch 1 (DKCSW1) does not turn off within 550 ms of timing switch 1 (TIMSW1) turning off.
	29	Multiple sheets in deck paper feed section 2	Deck conveying switch 2 (DKCSW2) does not turn off within 550 ms of deck conveying switch 1 (DKCSW1) turning off.
	30	Multiple sheets in optional side feeder paper feed section	Side feeder feed switch (SFFSW) does not turn off within 700 ms of its turning on.
	32	Misfeed in registration	Feed switch 1 (FSW1) does not turn on within specified time <800 ms (586 ms) for 80 cpm/1029 ms (586 ms) for 60 cpm> of feed switch 2 (FSW2) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	33	Misfeed in registration	Feed switch 1 (FSW1) does not turn off within specified time <800 ms (586 ms) for 80 cpm/1029 ms (586 ms) for 60 cpm> of feed switch 2 (FSW2) turning on. Feed switch 1 (FSW1) does not turn off within 666 ms of its turning on (when paper is fed from optional side feeder). Feed switch 1 (FSW1) does not turn off within specified time (1181 ms for 80 cpm/1520 ms for 60 cpm) of its turning on (when paper is fed from MP tray). Feed switch 1 (FSW1) does not turn off within specified time <4090 ms (3000 ms) for 80 cpm/5263 ms (3000 ms) for 60 cpm> of its turning on (when paper is fed from duplex section). Feed switch 1 (FSW1) does not turn off within specified time (800 ms for 80 cpm/1029 ms for 60 cpm) of feed switch 2 (FSW2) turning on. Feed switch 1 (FSW1) does not turn off within specified time (1000 ms for 80 cpm/1286 ms for 60 cpm) of its turning on. Feed switch 1 (FSW1) does not turn off within specified time (2000 ms for 80 cpm/2573 ms for 60 cpm) of its turning on (when paper is fed from duplex section). Feed switch 1 (FSW1) does not turn off within specified time (1890 ms for 80 cpm/2432 ms for 60 cpm) of its turning on (when paper is fed from MP tray). * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.

Section	Jam code	Description	Conditions
Paper conveying section	34	Misfeed in registration/ transfer section (cassette/ MP tray/optional side feeder)	Registration switch (RSW) does not turn on within specified time <459 ms (336 ms) for 80 cpm/590 ms (336 ms) for 60 cpm> of feed switch 1 (FSW1) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size. Registration switch (RSW) does not turn off within specified time (459 ms for 80 cpm/590 ms for 60 cpm) of feed switch 1 (FSW1) turning off.
	35	Misfeed in registration/ transfer section (duplex section)	Registration switch (RSW) does not turn on within specified time <459 ms (336 ms) for 80 cpm/590 ms (336 ms) for 60 cpm> of feed switch 1 (FSW1) turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size. Registration switch (RSW) does not turn off within specified time (459 ms for 80 cpm/590 ms for 60 cpm) of feed switch 1 (FSW1) turning off.
Fuser section	40	Misfeed in fuser section 1	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from cassette 1).
	41	Misfeed in fuser section 2	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from cassette 2).
	42	Misfeed in fuser section 3	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from cassette 3).
	43	Misfeed in fuser section 4	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from cassette 4).
	44	Misfeed in fuser section 5	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from optional side feeder).
	45	Misfeed in fuser section 6	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from MP tray). * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	46	Misfeed in fuser section 7	Exit switch (ESW) does not turn on within specified time (1350 ms for 80 cpm/1736 ms for 60 cpm) of its turning on (when paper is fed from duplex section).
Eject sensor	50	Misfeed in eject section	Exit switch (ESW) does not turn off within specified time <2000 ms (1000 ms) for 80 cpm/2573 ms (1286 ms) for 60 cpm> of its turning on.
Duplex section	60	Misfeed in duplex feedshift section	Feedshift switch (FSSW) does not turn on within specified time (650 ms for 80 cpm/950 ms for 60 cpm) of exit switch (ESW) turning on. Feedshift switch (FSSW) does not turn off within 2000 ms of its turning on.
	62	Misfeed in duplex internal tray	Duplex feed switch (DUPFSW) does not turn on within 450 ms of the duplex switchback motor (DUPSBM) turning on. Duplex feed switch (DUPFSW) does not turn off within specified time <2000 ms (1000 ms) for 80 cpm/3000 ms (1500 ms) for 60 cpm> of its turning on. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.

Section	Jam code	Description	Conditions
Duplex section	63	Misfeed in duplex registration section	Switchback exit switch (SBESW) does not turn off within specified time (2000 ms for 80 cpm/2573 ms for 60 cpm) of its turning on. Exit switch (ESW) does not turn off within specified time (1136 ms for 80 cpm/1461 ms for 60 cpm) of duplex feed switch (DUPFSW) turning on. Switchback exit switch (SBESW) does not turn on within specified time (863 ms for 80 cpm/1111 ms for 60 cpm) of duplex feed switch (DUPFSW) turning on.
	64	Misfeed in duplex conveying section 1	Duplex conveying switch 1 (DUPCSW1) does not turn off within specified time (750 ms for 80 cpm/1000 ms for 60 cpm) of duplex feed switch (DUPFSW) turning on. Duplex conveying switch 1 (DUPCSW1) does not turn off within specified time (750 ms for 80 cpm/1000 ms for 60 cpm) of duplex feed switch (DUPFSW) turning off.
	65	Misfeed in duplex conveying section 2	Duplex conveying switch 2 (DUPCSW2) does not turn on within specified time (750 ms for 80 cpm/1000 ms for 60 cpm) of duplex conveying switch 1 (DUPCSW1) turning on. Duplex conveying switch 2 (DUPCSW2) does not turn off within specified time <780 ms (570 ms) for 80 cpm/1000 ms (570 ms) for 60 cpm> of duplex conveying switch 1 (DUPCSW1) turning off. * Description in ( ) is written for the specified time of less then A4/11" x 8 1/2" size.
	66	Misfeed in duplex conveying section 3	Duplex conveying switch 3 (DUPCSW3) does not turn on within specified time (750 ms for 80 cpm/1000 ms for 60 cpm) of duplex conveying switch 2 (DUPCSW2) turning on. Duplex conveying switch 3 (DUPCSW3) does not turn off within specified time (750 ms for 80 cpm/1000 ms for 60 cpm) of duplex conveying switch 2 (DUPCSW2) turning off.
DP section	70	No original feed	The original feed switch (OFSW) does not turn on within 3792 pulse during the first sheet feeding. The original feed switch (OFSW) does not turn on within 3792 pulse during the second sheet feeding.
	71	An original jam in the original feed/conveying section 1	DP timing switch 2 (DPTM2) does not turn off within 3600 pulse.
	72	An original jam in the original feed/conveying section 2	The original feed switch (OFSW) and original registration switch (ORSW) does not turn off within 5000 pulse.
	73	An original jam in the original conveying section	DP timing switch 1 (DPTM1) does not turn off within 2000 pulse.
	74	An original jam remaining after retries	The original registration switch (ORSW) does not turn on within 2000 pulse and after 5 retries.
	75	An original jam in the switchback section 1	The original registration switch (ORSW) does not turn off within 5000 pulse. DP timing switch 1 (DPTM2) does not turn on within 2000 pulse.
	76	An original jam in the switchback section 2	DP timing switch 2 (DPTM2) does not turn off within 2800 pulse.

Section	Jam code	Description	Conditions
DP section	00	System error jam	The document processor top cover is opened during original feeding. CIS is opened during original feeding. DP is opened during original feeding. The power source is turned on when the original is remained in the original conveying path. The start key is pressed when the original is remained in the original conveying path.
Optional document finisher	80	Jam between the finisher and copier	Paper ejection is not output from the copier to the document finisher within 15 s of the face-up exit sensor (FUES) turning off.
	81	Paper jam during paper insertion to the finisher	When the paper entry sensor (PES) does not turn on within 1950 ms of the face-up exit sensor (FUES) of the copier turning off.
	82	Paper jam during paper insertion to the finisher and paper ejection to the sub tray	When the sub tray paper ejection sensor (STPES) does not turn on within 2000 ms of the paper entry sensor (PES) turning on. When the paper entry sensor (PES) does not turn off within 1500 ms of its turning on.
	83	Paper jam at the siding drum	When the sub tray paper ejection sensor (STPES) does not turn off within 1000 ms of its turning on.
	84	Paper jam during paper insertion to the intermediate tray	When the intermediate tray paper conveying sensor (ITPCS) does not turn on within 1200 ms of the paper entry sensor (PES) turning on. When the paper entry sensor (PES) does not turn off within 1500 ms of its turning on. When the intermediate tray paper conveying sensor (ITPCS) does not turn on within 2000 ms of the sub tray paper ejection sensor (STPES) turning on.
	85	Paper jam during ejection of stack of paper	When the intermediate tray paper conveying sensor (ITPCS) does not turn off within 1000 ms of its turning on.
	86	Jam in eject section of main tray	When straight ejection is performed, the paper ejection sensor (PEJS) is not turned on even if 2600 ms elapse after the paper entry sensor (PES) is turned on.
	87	Jam in eject section (middle tray) of main tray	The paper ejection sensor (PEJS) is not turned on even if 2600 ms elapse after bundled ejection from the intermediate tray starts.
	88	Jam in eject section of main tray	When the paper ejection sensor (PEJS) does not turn off within 2600 ms of its turning on.
	89	Jam in cover open	During operation, any of safety switches (upper cover switch (UCSW), front cover switch (FCSW), and centerfold unit set switch (CUSSW) is turned off.
	90	Jam in stapler	The front/rear stapler home position sensor (STHPS-F/R) or front/rear clincher home position sensor (CLNHPS-F/R) cannot detect normally the home position.
	91	Jam in saddle paper entry section	The lower paper sensor (PS-L) is not turned on even if 3000 ms elapse after bundled ejection to the centerfold unit starts.
	92	Jam in saddle paper entry section	The centerfold unit paper entry sensor (CUPES) is not turned on even if 2000 ms elapse after sorter ejection notification (serial communication data from the finisher main body to the centerfold unit).

Section	Jam code	Description	Conditions
Optional document finisher	93	Jam in saddle tray section	When the inside tray detection sensor (ITDS) does not turn on within 5000 ms of the centerfold unit paper entry sensor (CUPES) turning on.
	94	Jam in saddle eject section	The folded edge detection sensor (FEDS) is not turned on even if 5000 ms elapse after centerfold operation starts.
	95	Jam in saddle eject section	When the folded edge detection sensor (FEDS) does not turn off within 6000 ms of its turning on.

(3) Paper misfeeds

Problem	Causes/check procedures	Corrective measures
(1) A paper jam in the paper feed, conveying or eject section is indicated as soon as the power switch is turned on.	A piece of paper torn from copy paper is caught around feed switches, deck conveying switch, registration switch, exit switch.	Check visually and remove it, if any.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective deck conveying switch 2.	Run maintenance item U031 and turn deck conveying switch 2 on and off manually. Replace deck conveying switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 1). Jam code 10	Paper in cassette 1 is extremely curled.	Change the paper.
	Check if the paper feed pulley, forwarding pulley and separation pulley of cassette 1 are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 2 actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if paper feed motor 1 malfunctions.	Run maintenance item U030 and select paper feed motor 1 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed motor 1.	Check (see page 1-5-58).
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 2). Jam code 11	Paper in cassette 2 is extremely curled.	Change the paper.
	Check if the paper feed pulley, forwarding pulley and separation pulley of cassette 2 are deformed.	Check visually and replace any deformed pulleys.
	Defective timing switch 1.	Run maintenance item U031 and turn the timing switch 1 on and off manually. Replace the timing switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if paper feed motor 2 malfunctions.	Run maintenance item U030 and select paper feed motor 2 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed motor 2.	Check (see page 1-5-58).
(4) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 3). Jam code 12	Paper in cassette 3 is extremely curled.	Change the paper.
	Check if the paper feed pulley, forwarding pulley and separation pulley of cassette 3 are deformed.	Check visually and replace any deformed pulleys.
	Defective timing switch 2.	Run maintenance item U031 and turn the timing switch 2 on and off manually. Replace the timing switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if paper feed motor 3 malfunctions.	Run maintenance item U030 and select paper feed motor 3 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed motor 3.	Check (see page 1-5-58).

Problem	Causes/check procedures	Corrective measures
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 4). Jam code 13	Paper in cassette 4 is extremely curled.	Change the paper.
	Check if the paper feed pulley, forwarding pulley and separation pulley of cassette 4 are deformed.	Check visually and replace any deformed pulleys.
	Defective timing switch 3.	Run maintenance item U031 and turn timing switch 3 on and off manually. Replace timing switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if paper feed motor 4 malfunctions.	Run maintenance item U032 and select paper feed motor 4 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with paper feed motor 4.	Check (see page 1-5-59).
(6) A paper jam in the paper feed section is indicated during copying (no paper feed from optional side feeder). Jam code 14	Check if the side feeder feed clutch malfunctions.	Run maintenance item U247 and select the side feeder feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the side feeder feed clutch.	Check.
	Broken side feeder feed switch actuator.	Check visually and replace the side feeder feed switch if its actuator is broken.
	Defective side feeder feed switch.	Run maintenance item U031 and turn the side feeder feed switch on and off manually. Replace the side feeder feed switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(7) A paper jam in the paper feed section is indicated during copying (no paper feed from MP tray). Jam code 14	Paper on the MP tray is extremely curled.	Change the paper.
	Check if the MP paper feed pulley, MP forwarding pulley and MP separation pulley of the MP tray are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the MP feed motor malfunctions.	Run maintenance item U030 and select the MP feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the MP feed motor.	Check (see page 1-5-59).

Problem	Causes/check procedures	Corrective measures
(8) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 1). Jam code 19	Broken feed switch 4 actuator.	Check visually and replace feed switch 4 if its actuator is broken.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 5 actuator.	Check visually and replace feed switch 5 if its actuator is broken.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective timing switch 2.	Run maintenance item U031 and turn the timing switch 2 on and off manually. Replace the timing switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective timing switch 3.	Run maintenance item U031 and turn timing switch 3 on and off manually. Replace timing switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(9) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 3). Jam code 21	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 4 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(10) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 4). Jam code 21	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 4 actuator.	Check visually and replace feed switch 4 if its actuator is broken.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 5 actuator.	Check visually and replace feed switch 5 if its actuator is broken.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken deck conveying switch 1 actuator.	Check visually and replace deck conveying switch 1 if its actuator is broken.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(11) A paper jam in the paper feed section is indicated during copying (jam in deck paper conveying section 2). Jam code 23	Broken deck conveying switch 1 actuator.	Check visually and replace deck conveying switch 1 if its actuator is broken.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken deck conveying switch 2 actuator.	Check visually and replace deck conveying switch 2 if its actuator is broken.
	Defective deck conveying switch 2.	Run maintenance item U031 and turn deck conveying switch 2 on and off manually. Replace deck conveying switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective the timing switch 1.	Run maintenance item U031 and turn timing switch 1 on and off manually. Replace timing switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(12) A paper jam in the paper feed section is indicated during copying (multiple sheets in paper feed section 1). Jam code 24	Broken feed switch 5 actuator.	Check visually and replace feed switch 5 if its actuator is broken.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective timing switch 3.	Run maintenance item U031 and turn timing switch 3 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(13) A paper jam in the paper feed section is indicated during copying (multiple sheets in paper feed section 2). Jam code 25	Broken feed switch 4 actuator.	Check visually and replace feed switch 4 if its actuator is broken.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 5 actuator.	Check visually and replace feed switch 5 if its actuator is broken.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective timing switch 2.	Run maintenance item U031 and turn the timing switch 2 on and off manually. Replace the timing switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(14) A paper jam in the paper feed section is indicated during copying (multiple sheets in paper feed section). Jam code 26	Broken feed switch 3 actuator.	Check visually and replace feed switch 3 if its actuator is broken.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 4 actuator.	Check visually and replace feed switch 4 if its actuator is broken.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(15) A paper jam in the paper feed section is indicated during copying (multiple sheets in paper feed section). Jam code 27	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 4 actuator.	Check visually and replace feed switch 4 if its actuator is broken.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 5 actuator.	Check visually and replace feed switch 5 if its actuator is broken.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken deck conveying switch 1 actuator.	Check visually and replace deck conveying switch 1 if its actuator is broken.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken deck conveying switch 2 actuator.	Check visually and replace deck conveying switch 2 if its actuator is broken.
	Defective deck conveying switch 2.	Run maintenance item U031 and turn deck conveying switch 2 on and off manually. Replace deck conveying switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(16) A paper jam in the paper feed section is indicated during copying (multiple sheets in deck paper feed section 1). Jam code 28	Broken deck conveying switch 1 actuator.	Check visually and replace deck conveying switch 1 if its actuator is broken.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken timing switch 1 actuator.	Check visually and replace timing switch 1 if its actuator is broken.
	Defective timing switch 1.	Run maintenance item U031 and turn timing switch 1on and off manually. Replace the timing switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(17) A paper jam in the paper feed section is indicated during copying (multiple sheets in deck paper feed section 2). Jam code 29	Broken deck conveying switch 1 actuator.	Check visually and replace deck conveying switch 1 if its actuator is broken.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken deck conveying switch 2 actuator.	Check visually and replace deck conveying switch 2 if its actuator is broken.
	Defective deck conveying switch 2.	Run maintenance item U031 and turn deck conveying switch 2 on and off manually. Replace deck conveying switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(18) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional side feeder). Jam code 30	Broken side feeder feed switch actuator.	Check visually and replace the side feeder feed switch if its actuator is broken.
	Defective side feeder feed switch.	Run maintenance item U031 and turn the side feeder feed switch on and off manually. Replace the side feeder feed switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(19) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 32	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken side feeder feed switch actuator.	Check visually and replace the side feeder feed switch if its actuator is broken.
	Defective side feeder feed switch.	Run maintenance item U031 and turn the side feeder feed switch on and off manually. Replace the side feeder feed switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(20) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 33	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feed switch 2 actuator.	Check visually and replace feed switch 2 if its actuator is broken.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(21) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 34	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(22) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 35	Broken feed switch 1 actuator.	Check visually and replace feed switch 1 if its actuator is broken.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(23) A paper jam in the fuser section is indicated during copying (jam in fuser section 1). Jam code 40	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(24) A paper jam in the fuser section is indicated during copying (jam in fuser section 2). Jam code 41	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(25) A paper jam in the fuser section is indicated during copying (jam in fuser section 3). Jam code 42	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(26) A paper jam in the fuser section is indicated during copying (jam in fuser section 4). Jam code 43	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(27) A paper jam in the fuser section is indicated during copying (jam in fuser section 5). Jam code 44	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(28) A paper jam in the fuser section is indicated during copying (jam in fuser section 6). Jam code 45	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(29) A paper jam in the fuser section is indicated during copying (jam in fuser section 7). Jam code 46	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(30) A paper jam in the eject section is indicated during copying (jam in eject section). Jam code 50	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(31) A paper jam in the eject section is indicated during copying (jam in duplex feedshift section). Jam code 60	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken feedshift switch actuator.	Check visually and replace the feedshift switch if its actuator is broken.
	Defective feedshift switch.	Run maintenance item U031 and turn the feedshift switch on and off manually. Replace the feedshift switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(32) A paper jam in the duplex section is indicated during copying (jam in duplex internal tray). Jam code 62	Broken duplex feed switch actuator.	Check visually and replace the duplex feed switch if its actuator is broken.
	Defective duplex feed switch.	Run maintenance item U031 and turn the duplex feed switch on and off manually. Replace the duplex feed switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the duplex switchback motor malfunctions.	Run maintenance item U030 and select the duplex switchback motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the duplex switchback motor.	Check (see page 1-5-61).

Problem	Causes/check procedures	Corrective measures
(33) A paper jam in the duplex section is indicated during copying (jam in duplex registration section). Jam code 63	Defective switchback exit switch.	Run maintenance item U031 and turn the switchback exit switch on and off manually. Replace the switchback exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex feed switch actuator.	Check visually and replace the duplex feed switch if its actuator is broken.
	Defective duplex feed switch.	Run maintenance item U031 and turn the duplex feed switch on and off manually. Replace the duplex feed switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(34) A paper jam in the duplex section is indicated during copying (jam 1 in duplex conveying section). Jam code 64	Broken duplex feed switch actuator.	Check visually and replace the duplex feed switch if its actuator is broken.
	Defective duplex feed switch.	Run maintenance item U031 and turn the duplex feed switch on and off manually. Replace the duplex feed switch if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex conveying switch 1 actuator.	Check visually and replace duplex conveying switch 1 if its actuator is broken.
	Defective duplex conveying switch 1.	Run maintenance item U031 and turn duplex conveying switch 1 on and off manually. Replace duplex conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(35) A paper jam in the duplex section is indicated during copying (jam 2 in duplex conveying section). Jam code 65	Broken duplex conveying switch 1 actuator.	Check visually and replace duplex conveying switch 1 if its actuator is broken.
	Defective duplex conveying switch 1.	Run maintenance item U031 and turn duplex conveying switch 1 on and off manually. Replace duplex conveying switch 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex conveying switch 2 actuator.	Check visually and replace duplex conveying switch 2 if its actuator is broken.
	Defective duplex conveying switch 2.	Run maintenance item U031 and turn duplex conveying switch 2 on and off manually. Replace duplex conveying switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(36) A paper jam in the duplex section is indicated during copying (jam 3 in duplex conveying section). Jam code 66	Broken duplex conveying switch 2 actuator.	Check visually and replace duplex conveying switch 2 if its actuator is broken.
	Defective duplex conveying switch 2.	Run maintenance item U031 and turn duplex conveying switch 2 on and off manually. Replace duplex conveying switch 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex conveying switch 3 actuator.	Check visually and replace duplex conveying switch 3 if its actuator is broken.
	Defective duplex conveying switch 3.	Run maintenance item U031 and turn duplex conveying switch 3 on and off manually. Replace duplex conveying switch 3 if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(37) An original jams in the optional DP is indicated during copying (no original feed). Jam code 70	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(38) An original jams in the optional DP is indicated during copying (jam in the original feed/conveying section 1). Jam code 71	Defective DP timing switch 2.	Run maintenance item U244 and turn DP timing switch 2 on and off manually. Replace DP timing switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
(39) An original jams in the optional DP is indicated during copying (jam in the original feed/conveying section 2). Jam code 72	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective DP registration switch.	Run maintenance item U244 and turn the DP registration switch on and off manually. Replace the DP registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(40) An original jams in the optional DP is indicated during copying (jam in the original conveying section). Jam code 73	Defective DP timing switch 1.	Run maintenance item U244 and turn DP timing switch 1 on and off manually. Replace DP timing switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
(41) An original jams in the optional DP is indicated during copying (jam in the original registration section). Jam code 74	Defective DP registration switch.	Run maintenance item U244 and turn the DP registration switch on and off manually. Replace the DP registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(42) An original jams in the optional DP is indicated during copying (jam in the original switchback section 1). Jam code 75	Defective DP registration switch.	Run maintenance item U244 and turn the DP registration switch on and off manually. Replace the DP registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective DP timing switch 1.	Run maintenance item U244 and turn DP timing switch 1 on and off manually. Replace DP timing switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
(43) An original jams in the optional DP is indicated during copying (jam in the original switchback section 2). Jam code 76	Defective DP timing switch 2.	Run maintenance item U244 and turn DP timing switch 2 on and off manually. Replace DP timing switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(44) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the finisher). Jam code 81	The paper entry roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The paper entry roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper entry sensor.	Run maintenance item U241 and turn the paper entry sensor on and off manually. Replace the paper entry sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(45) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the finisher and paper ejection to the sub tray). Jam code 82	The sub feed roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The sub feed roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper entry sensor.	Run maintenance item U241 and turn the paper entry sensor on and off manually. Replace the paper entry sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective sub tray paper ejection sensor.	Run maintenance item U241 and turn the sub tray paper ejection sensor on and off manually. Replace the sub tray paper ejection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(46) A paper jam in the optional document finisher is indicated during copying (paper jam at the siding drum). Jam code 83	The siding drum is dirty with paper powder.	Check and, if it is dirty, clean it.
	The siding drum is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective intermediate tray paper conveying sensor.	Run maintenance item U241 and turn the intermediate tray paper conveying sensor on and off manually. Replace the intermediate tray paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(47) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the intermediate tray). Jam code 84	The intermediate tray paper entry roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The intermediate tray paper entry roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective intermediate tray paper conveying sensor.	Run maintenance item U241 and turn the intermediate tray paper conveying sensor on and off manually. Replace the intermediate tray paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(48) A paper jam in the optional document finisher is indicated during copying (paper jam during ejection of stack of paper). Jam code 85	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(49) A paper jam in the optional document finisher is indicated during copying (jam in eject section of main tray). Jam code 86	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(50) A paper jam in the optional document finisher is indicated during copying (jam in eject section (middle tray) of main tray). Jam code 87	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(51) A paper jam in the optional document finisher is indicated during copying (jam in eject section of main tray). Jam code 88	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(52) A paper jam in the optional document finisher is indicated during copying (jam in cover open). Jam code 89	Defective upper cover switch.	If the voltage at CN3-3 on the finisher main PWB remains the same when the upper cover switch is turned on and off, replace the switch.
	Defective front cover switch.	If the voltage at CN3-4 on the finisher main PWB remains the same when the front cover switch is turned on and off, replace the switch.
	Defective centerfold unit set switch.	If the voltage at CN14-2 on the finisher main PWB remains the same when the centerfold unit set switch is turned on and off, replace the switch.
(53) A paper jam in the optional document finisher is indicated during copying (jam in stapler). Jam code 90	Defective front/rear stapler home position sensor.	If the voltage at CN6-14B and CN6-10B on the finisher main PWB remain the same when the front/rear stapler home position sensor is turned on and off, replace the front/rear stapler driver.
	Defective front/rear clincher home position sensor.	If the voltage at CN6-22A and CN6-23A on the finisher main PWB remain the same when the front/rear clincher home position sensor is turned on and off, replace the front/rear stapler clincher.
(54) A paper jam in the optional document finisher is indicated during copying (jam in saddle paper entry section). Jam code 91	The intermediate tray upper or lower sliding plate is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective lower paper sensor.	Run maintenance item U241 and turn the lower paper sensor on and off manually. Replace the lower paper sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(55) A paper jam in the optional document finisher is indicated during copying (jam in saddle paper entry section). Jam code 92	The paper forwarding pulley, upper or lower forwarding roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The paper forwarding pulley, upper or lower forwarding roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective centerfold unit paper entry sensor.	Run maintenance item U241 and turn the centerfold unit paper entry sensor on and off manually. Replace the centerfold unit paper entry sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(56) A paper jam in the optional document finisher is indicated during copying (jam in saddle tray section). Jam code 93	The paper entry roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The paper entry roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective inside tray detection sensor.	Run maintenance item U241 and turn the inside tray detection sensor on and off manually. Replace the inside tray detection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(57) A paper jam in the optional document finisher is indicated during copying (jam in saddle eject section). Jam code 94	The right or left centerfold roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The right or left centerfold roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective folded edge detection sensor.	Run maintenance item U241 and turn the folded edge detection sensor on and off manually. Replace the folded edge detection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(58) A paper jam in the optional document finisher is indicated during copying (jam in saddle eject section). Jam code 95	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective folded edge detection sensor.	Run maintenance item U241 and turn the folded edge detection sensor on and off manually. Replace the folded edge detection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

1-5-2 Self-diagnosis

(1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled and the problem displayed as a code consisting of C followed by a number between 0060 and 9080, indicating the nature of the problem. A message is also displayed requesting the user to call for service.
After removing the problem, the self-diagnostic function can be reset by turning front cover/feed cover switch off and back on.

Figure 1-5-3

List of system errors
When an unexpected error is detected for some reason, a system error will be indicated. (When 0800 error is detected, JAM05 is indicated.) After a system error is indicated, the error can be cleared by turning the power switch off and then on. If the error is detected continuously, however, perform the operation shown in Table 1-5-1. If a system error occurs frequently, a fault may have occurred. Check the details of the C call to take proper measures.

System error	Contents	Operation
0420	Side feeder communication error	System error → Normal service call processing
0610	Bitmap problem	System error → Normal service call processing
0630	DMA problem	Repetition of system error → service call → system error
0640	Hard disk problem	System error → Normal service call processing
0800	Secondary feed time-out	Repetition of JAM05 → system error → JAM05
4100	BD initialization (A) problem	System error → Normal service call processing
4110	BD initialization (B) problem	System error → Normal service call processing
4120	BD initialization (C) problem	System error → Normal service call processing
4200	BD steady-state problem	System error → Normal service call processing

Table1-5-1

Partial operation control
If any of the following calls for service is detected, partial operation control will be activated. After taking measures against the cause of trouble, run maintenance item U906 to reset partial operation control.

Code	Contents
C0250	Network scanner board* communication problem
C0410	DP communication problem
C0420	Side feeder* communication error
C0640	Hard disk problem
C1010	Lift motor 1 error
C1020	Lift motor 2 error
C1030	Lift motor 3 error
C1040	Lift motor 4 error
C1140	Side feeder lift motor going up error (optional side feeder)
C1150	Side feeder lift motor going down error (optional side feeder)
C1200	Duplex side registration motor error
C2640	Side feeder drive motor error
C3210	Exposure lamp problem
C3310	Optical system (AGC) problem (DP)
C8010	Document finisher* paper conveying motor problem
C8020	Document finisher* punch motor problem
C8030	Document finisher* upper paper conveying belt problem
C8040	Document finisher* lower paper conveying belt problem
C8140	Document finisher* main tray problem
C8150	Document finisher* multi job tray problem
C8170	Document finisher* front upper side registration guide problem
C8180	Document finisher* rear upper side registration guide problem
C8190	Document finisher* lower side registration guide problem
C8210	Document finisher* front stapler problem
C8220	Document finisher* front clincher problem
C8230	Document finisher* rear stapler problem
C8240	Document finisher* rear clincher problem
C8300	Document finisher* centerfold unit communication problem
C8310	Document finisher* centerfold unit side registration guide problem
C8320	Document finisher* centerfold unit centering plate problem
C8330	Document finisher* centerfold blade problem
C9040	DP lift motor going up error
C9050	DP lift motor going down error
C9060	DP EEPROM error
C9070	Communication problem between DP and SHD
C9080	Communication problem between DP and CIS

*Optional.

(2) Self diagnostic codes

*The option equipment.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0060	**Main PWB type mismatch error**	Poor contact in the connector terminals.	Check the connection of connector YC26 on the main PWB and relay board, and the continuity across the connector terminals. Repair if necessary. If the problem is not solved, run maintenance item U935 (see page 1-4-73) and return the relay board to the Service Administrative Division.
C0100	**Backup memory read/write problem** • Read and write data does not match.	Defective main PWB.	Replace the main PWB and check for correct operation.
C0110	**Backup memory data problem (main PWB)** • Data in the specified area of the backup memory does not match the specified values.	Problem with the backup memory data.	Run maintenance item U021 to set the contents of the backup memory data again.
		Defective main PWB.	If the C0110 is displayed after initializing the backup memory, replace the main PWB and check for correct operation.
C0130	**Backup memory (EEPROM) device problem**	Defective main PWB.	Replace the main PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C0140	**Backup memory (EEPROM) data problem**	Data damage of EEPROM.	Contact the Service Administrative Division.
C0150	**Backup memory device problem (Engine PWB)** • An error occurs in backup data read or write for the engine PWB.	Data damage of EEPROM.	Contact the Service Administrative Division.
C0160	**Backup memory data problem (Engine PWB)** • Data for backup data check is changed at the check after startup.	Problem with the backup memory data.	Run maintenance item U022 to initialize the backup memory data (see page 1-4-11).
		Defective engine PWB.	If the C0160 is displayed after initializing the backup memory, replace the engine PWB and check for correct operation.
C0170	**Copy counts problem** • A checksum error is detected in the main and engine backup memories for the copy counters.	Data damage of EEPROM.	Contact the Service Administrative Division.
		Defective main PWB.	Replace the main PWB and check for correct operation.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C0180	**Machine number mismatch error** • Machine number of main PWB and engine PWB does not match.	Data damage of EEPROM.	Contact the Service Administrative Division.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0210	**CPU communication problem** • Synchronization cannot be taken between the main CPU and engine CPU.	Defective main PWB.	Replace the main PWB.
		Poor contact in the connector terminals.	Check the connection of the main PWB and engine PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
C0220	**CPU communication problem** • Synchronization cannot be taken between the main CPU and scanner CPU.	Defective main PWB.	Replace the main PWB.
		Poor contact in the connector terminals.	Check the connection of connector YC2 on the engine PWB and YC5 on the scanner PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective scanner PWB.	Replace the scanner PWB.
C0240	**Printer board* communication problem** • The printer board does not respond 120 seconds after the power is turned on.	Poor contact in the connector terminals.	Check the connection of connector YC9 on the main PWB and the connector on the printer board. Repair or replace if necessary.
		DIMM installed incorrectly.	Check the connection. Repair or replace if necessary.
		Defective main PWB or printer board.	Replace the main PWB or printer board and check for correct operation.
C0250	**Network scanner board* communication problem** • The response to the alive command to the network scanner transmitted once to 30 s does not come on the contrary three consecutive times or more. • The response to the communication command transmitted to the network scanner does not return 75 s or more.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the main PWB and the connector on the network scanner board. Repair or replace if necessary.
		Defective main PWB or network scanner board.	Replace the main PWB or network scanner board and check for correct operation.
C0330	**Relay board communication problem**	Poor contact in the connector terminals.	Check the connection of connector YC26 on the main PWB and relay board, and the continuity across the connector terminals. Repair if necessary. If the problem is not solved, run maintenance item U935 (see page 1-4-73) and return the relay board to the Service Administrative Division.
C0410	**DP communication problem** • There is no reply after 5 retries at communication or a communication error occurs.	Poor contact in the connector terminals.	Check the connection of connector YC6 on the scanner PWB and the connector on DP. Repair or replace if necessary.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0420	**Side feeder* communication error** • Reception is not normally completed even after 40 times of retry at startup or 5 times of retry in normal operation.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector YC3 on the side feeder main PWB. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
		Defective side feeder main PWB.	Replace the side feeder main PWB.
C0440 C0470	**Document finisher communication problem (optional document finisher)** • A communication error from document finisher is detected 10 times in succession.	Poor contact in the connector terminals.	Check the connection of connector YC14 on the engine PWB and the connector on the finisher main PWB. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
		Defective finisher main PWB.	Replace the finisher main PWB.
C0460	**Duplex unit communication problem** • A communication error from duplex section is detected 10 times in succession.	Poor contact in the connector terminals.	Check the connection of connector YC2 on the engine PWB and the connector on the duplex PWB. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
		Defective duplex PWB.	Replace the duplex PWB.
C0500	**Paper feed unit communication error (cassette 1 and 2)** • A communication error is detected 10 times in succession.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the engine PWB and the connector YC2 on the deck PWB. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
C0500	**Paper feed unit communication error (cassette 3 and 4)** • A communication error is detected 10 times in succession.	Poor contact in the connector terminals.	Check the connection of connector YC4 on the engine PWB and the connector YC2 on the cassette PWB. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
C0610	**Bitmap problem** • The DIMM on the scanner main PWB does not operate correctly.	Defective scanner PWB.	Replace the scanner PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0630	**DMA problem** • DMA transmission of compressed, decompressed, rotated, relocated or blanked-out image data does not complete within the specified period of time.	Defective main PWB.	Replace the main PWB and check for correct operation.
C0640	**Hard disk problem** • The hard disk cannot be accessed.	Poor contact in the connector terminals.	Check the connection of connector YC11 on the engine PWB and the hard disk. Repair or replace if necessary.
		Defective hard disk.	Run U906 (Resetting partial operation control) to cancel partial operation control. Run U024 (HDD formatting) without turning the power off to initialize the hard disk. Replace the hard disk drive and check for correct operation if the problem is still detected after initialization.
		Defective main PWB.	Replace the main PWB and check for correct operation.
C0700	**Side feeder EEPROM error (optional side feeder)** • An error occurs in EEPROM (U4) data read or write for the side feeder main PWB.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector YC3 on the side feeder main PWB. Repair or replace if necessary.
		Defective side feeder main PWB.	Replace the side feeder main PWB.
		Defective engine PWB.	Replace the engine PWB.
C0750	**Document finisher* EEPROM error** • A backup memory error is received in serial communication data from the finisher.	Poor contact in the connector terminals.	Check the connection of connector YC14 on the engine PWB and the connector on the finisher main PWB. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
		Defective optional document finisher.	Replace the document finisher with another unit and check the operation. If the operation is normal, replace or repair the document finisher (see the service manual for the document finisher).
C0960	**Developing unit EEPROM error**	Poor contact in the connector terminals.	Check the connection of the engine PWB and the developing unit. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
		Defective developing unit.	Replace the developing unit (see page 1-6-60).
C0970	**Cleaning unit EEPROM error**	Poor contact in the connector terminals.	Check the connection of the engine PWB and the cleaning unit. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB.
		Defective cleaning unit.	Replace the cleaning unit (see page 1-6-66).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1010	**Lift motor 1 error** • When cassette 1 is inserted, lift limit switch 1 does not turn on within 33 s of lift motor 1 turning on. • During copying, lift limit switch 1 does not turn on within 1 s of lift motor 1 turning on.	Broken gears or couplings of lift motor 1.	Replace lift motor 1.
		Defective lift motor 1.	Check for continuity across the coil. If none, replace lift motor 1.
		Poor contact of lift motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lift limit switch 1.	Check if YC7-B2 on the deck PWB goes low when lift limit switch 1 is turned off. If not, replace lift limit switch 1.
		Poor contact of lift limit switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective deck PWB.	Replace the deck PWB.
C1020	**Lift motor 2 error** • When cassette 2 is inserted, lift limit switch 2 does not turn on within 33 s of lift motor 2 turning on. • During copying, lift limit switch 2 does not turn on within 1 s of lift motor 2 turning on.	Broken gears or couplings of lift motor 2.	Replace lift motor 2.
		Defective lift motor 2.	Check for continuity across the coil. If none, replace lift motor 2.
		Poor contact of lift motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lift limit switch 2.	Check if YC7-B8 on the deck PWB goes low when lift limit switch 2 is turned off. If not, replace lift limit switch 2.
		Poor contact of lift limit switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective deck PWB.	Replace the deck PWB.
C1030	**Lift motor 3 error** • When cassette 3 is inserted, lift limit switch 3 does not turn on within 33 s of lift motor 3 turning on. • During copying, lift limit switch 3 does not turn on within 1 s of lift motor 3 turning on.	Broken gears or couplings of lift motor 3.	Replace lift motor 3.
		Defective lift motor 3.	Check for continuity across the coil. If none, replace lift motor 3.
		Poor contact of lift motor 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lift limit switch 3.	Check if YC4-3 on the cassette PWB goes low when lift limit switch 3 is turned off. If not, replace lift limit switch 3.
		Poor contact of lift limit switch 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective casette PWB.	Replace the casette PWB

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1040	**Lift motor 4 error** • When cassette 4 is inserted, lift limit switch 4 does not turn on within 33 s of lift motor 4 turning on. • During copying, lift limit switch 4 does not turn on within 1 s of lift motor 4 turning on.	Broken gears or couplings of lift motor 4.	Replace lift motor 4.
		Defective lift motor 4.	Check for continuity across the coil. If none, replace lift motor 4.
		Poor contact of lift motor 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lift limit switch 4.	Check if YC4-4 on the cassette PWB goes low when lift limit switch 4 is turned off. If not, replace lift limit switch 4.
		Poor contact of lift limit switch 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective casette PWB.	Replace the casette PWB.
C1140	**Side feeder lift motor going up error (optional side feeder)** • Upper limit detection switch does not turn off within 15 s of the side feeder lift motor starting (within 200 ms during paper feeding).	Poor contact of upper limit detection switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective side feeder main PWB.	Replace the side feeder main PWB.
		Defective engine PWB.	Replace the engine PWB.
C1150	**Side feeder lift motor going down error (optional side feeder)** • Lower limit detection switch does not turn off within 15 s of the side feeder lift motor starting (within 200 ms during paper feeding).	Poor contact of lower limit detection switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective side feeder main PWB.	Replace the side feeder main PWB.
		Defective engine PWB.	Replace the engine PWB.
C1200	**Duplex side registration motor error** • The duplex side registration home position sensor does not detect the home position of the side registration guide.	Defective duplex side registration home position sensor.	Check the connection of connector YC29 on the engine PWB and the connector YC1 on the duplex PWB. Repair or replace if necessary.
		Defective duplex side registration motor.	Replace the duplex side registration motor.
		Defective engine PWB.	Replace the engine PWB.
		Defective duplex PWB.	Replace the duplex PWB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2100	**Developing motor error** • LOCK signal remains high for 1 s, 1 s after the developing motor has turned on.	Poor contact in the developing motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective developing motor rotation control circuit.	Replace the developing motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2200	**Drive motor error** • LOCK signal remains high for 1 s, 1 s after the drive motor has turned on.	Poor contact in the drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective drive motor rotation control circuit.	Replace the drive motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2300	**Fuser motor error** • LOCK signal remains high for 1 s, 1 s after the fuser motor has turned on.	Poor contact in the fuser motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective fuser motor rotation control circuit.	Replace the fuser motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2550	**Transfer motor error** • LOCK signal remains high for 1 s, 1 s after the transfer motor has turned on.	Poor contact in the transfer motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective transfer motor rotation control circuit.	Replace the transfer motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2640	**Side feeder drive motor error**	Defective side feeder drive motor.	Replace the side feeder drive motor.
		Defective side feeder main PWB.	Replace the side feeder main PWB.
		Defective engine PWB.	Replace the engine PWB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3100	**Scanner carriage problem** • The home position is not correct when the power is turned on or at the start of copying using the MP tray.	Defective scanner PWB.	Replace the scanner PWB and check for correct operation.
		Defective scanner home position switch.	Replace the scanner home position switch.
		Defective scanner motor.	Replace the scanner motor.
		Poor contact in the connector terminals.	Check the connection of connector YC5 on the scanner PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective mirror flame, exposure lamp or scanner wire.	Check if the mirror flames and exposure lamp are on the rail. And check the scanner wire winds correctly.
C3200	**Exposure lamp problem** • Check the CCD input value for the lighting status of the exposure lamp 500 ms after the exposure lamp is lit and the carriage is moved to the shading position. If the exposure lamp does not light, a further 100 ms later, check the CCD input. The exposure lamp does not light after 50 retries.	Defective scanner PWB.	Replace the scanner PWB and check for correct operation.
		Defective exposure lamp or inverter PWB.	Replace the exposure lamp or inverter PWB.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the scanner home position switch.
		Poor contact of the connector terminals.	Check the connection of connector YC4 on the scanner PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective CCD PWB.	Replace the CCD PWB and check for correct operation.
C3210	**CIS lamp problem** • After the reading starting, when input value at the time of CIS illumination does not exceed the threshold value between 5 s.	Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		Poor contact in the connector terminals.	Check the connection of connector YC6 on the DP main PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective CIS.	Replace CIS and check for correct operation (see page 1-6-87).
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
C3300	**Optical system (AGC) problem** • After AGC, correct input is not obtained at CCD.	Insufficient exposure lamp luminosity.	Replace the exposure lamp or inverter PWB.
		Defective scanner PWB.	Replace the scanner PWB and check for correct operation.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the scanner home position sensor.
		CCD PWB output problem.	Replace the ISU (see page 1-6-46).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3310	**Optical system (AGC) problem (DP)** • After AGC, correct input is not obtained at CIS.	Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		CIS output problem.	Replace CIS (see page 1-6-87).
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
C3500	**Communication error between scanner and SHD** • An error code is detected.	Defective SHD PWB.	Replace the SHD PWB and check for correct operation.
		Poor contact in the connector terminals.	Check the connection of connector YC3 on the scanner PWB and connector YC4 on the SHD PWB. Repair or replace if necessary.
		Defective scanner PWB.	Replace the scanner PWB and check for correct operation.
C3900	**Backup memory read/write error (scanner PWB)** • Read and write data does not match.	Defective back up RAM or scanner PWB.	Replace the scanner PWB and check for correct operation.
C3910	**Backup memory read/write error (scanner PWB)** • Data in the specified area of the backup memory does not match the specified values.	Problem with the backup memory data.	Run maintenance item U022 to initialize the backup memory data.
		Defective scanner PWB.	If the C3910 is displayed after initializing the backup memory, replace the main PWB and check for correct operation.
C4000	**Polygon motor synchronization problem** • The polygon motor does not reach the stable speed within 20 s of the START signal turning on.	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective polygon motor.	Replace the laser scanner unit (see page 1-6-42).
		Defective engine PWB.	Check if 24 V DC is supplied to YC17-1 on the engine PWB. If not, replace the engine PWB.
C4010	**Polygon motor steady-state problem** • The polygon motor rotation is not stable for 5 s after the polygon motor rotation has been stabilized.	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective polygon motor.	Replace the laser scanner unit (see page 1-6-42).
		Defective engine PWB.	Check if 24 V DC is supplied to YC17-1 on the engine PWB. If not, replace the engine PWB.
C4100	**BD initialization (A) problem** • When power is turned on, only laser A is output and ASIC of main PWB detects a BD error for 2000 ms.	Defective laser scanner unit.	Replace the laser scanner unit (see page 1-6-42).
		Defective main PWB.	Replace the main PWB and check for correct operation.
		Poor contact in connector terminals.	Check the connection of connector YC8 on the main PWB and the continuity across the connector terminals. Repair or replace if necessary.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C4110	**BD initialization (B) problem** • When power is turned on, only laser B is output and ASIC of main PWB detects a BD error for 2000 ms.	Defective laser scanner unit.	Replace the laser scanner unit (see page 1-6-42).
		Defective main PWB.	Replace the main PWB and check for correct operation.
		Poor contact in connector terminals.	Check the connection of connector YC8 on the main PWB and the continuity across the connector terminals. Repair or replace if necessary.
C4120	**BD initialization (C) problem** • When power is turned on, only laser C is output and ASIC of main PWB detects a BD error for 2000 ms.	Defective laser scanner unit.	Replace the laser scanner unit (see page 1-6-42).
		Defective main PWB.	Replace the main PWB and check for correct operation.
		Poor contact in connector terminals.	Check the connection of connector YC8 on the main PWB and the continuity across the connector terminals. Repair or replace if necessary.
C4200	**BD steady-state problem** • ASIC of the main PWB detects a BD error A for 4000 ms after the polygon motor rotation has been stabilized.	Defective laser diode.	Replace the laser scanner unit (see page 1-6-42).
		Defective polygon motor.	Replace the laser scanner unit (see page 1-6-42).
		Defective main PWB.	Replace the main PWB and check for correct operation.
		Poor contact in connector terminals.	Check the connection of connector YC8 on the main PWB and the continuity across the connector terminals. Repair or replace if necessary.
C5100	**Main high-voltage error** • While the main high-voltage output remote signal is on, an alarm signal is detected continuously for 400 ms.	Defective high voltage PWB.	Replace the high voltage PWB and check for correct operation.
		Leak of main high-voltage.	Check the main charger unit and replace if necessary (see page 1-6-31).
C5500	**Drum surface potential sensor problem 1** • The sensor output is 0.5 V or less when MC REM signal is turned on.	Poor contact in the drum surface potential sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective drum surface potential sensor.	Replace the drum surface potential sensor.
		Defective high voltage PWB.	Replace the high voltage PWB and check for correct operation.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C5510	**Drum surface potential sensor problem 2** • The sensor output is 4.5 V or more when the MC REM signal is turned on.	Defective drum surface potential sensor.	Replace the drum surface potential sensor.
		Defective high voltage PWB.	Replace the high voltage PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C5600	**Drum surface potential problem 1** • Maximizing the grid output cannot set the potential.	Deteriorated main charger.	Check the main charger wire and replace it if necessary (see page 1-6-33).
		Grid or main charger shield is dirty.	Clean the grid or main charger shield if necessary.
		Defective drum surface potential sensor.	Replace the drum surface potential sensor.
		Defective high voltage PWB.	Replace the high voltage PWB and check for correct operation.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C5610	**Drum surface potential problem 2** • Minimizing the grid output cannot set the potential.	Defective drum surface potential sensor.	Replace the drum surface potential sensor.
		Defective high voltage PWB.	Replace the high voltage PWB and check for correct operation.
C6000	**Fuser heater lamp break** • The fuser temperature does not increase for 40 s after the fuser heaters have been turned on for warming up. • The fuser temperature remains below 50 °C/122 °F for 10 s continuously after the fuser heaters have been turned on during stabilization.	Installation defectiveness on fuser thermistor M and S.	Check the mounting state of the fuser thermistor M and S. If any problem is found, repair it.
		Defective fuser thermostat.	Replace the fuser thermostat (see page 1-6-75).
		Installation defectiveness on fuser heater L, M or S.	Check the mounting state of the fuser thermistor L, M and S. If any problem is found, repair it.
		Broken fuser heater L, M and S wire.	Check for continuity. If none, replace the fuser heater L, M and S (see page 1-6-76).
		Defective engine PWB.	Replace the engine PWB.
		Defective AC power source PWB.	Replace the AC power source PWB.
C6020	**Fuser thermistor high-temperature detection error** • The fuser temperature exceeds 235 °C/455 °F for 10 s.	Installation defectiveness on fuser thermistor M and S.	Check the mounting state of the fuser thermistor M and S. If any problem is found, repair it.
		Defective fuser thermistor M and S.	Replace the fuser thermistor M and S (see page 1-6-75).
C6030	**Fuser thermistor break error** • The fuser temperature remains at 0 °C/32 °F for 30 s continuously when the fuser heater is on.	Defective engine PWB.	Replace the engine PWB.
		Defective AC power source PWB.	Replace the AC power source PWB.
		Installation defectiveness on fuser thermistor M and S.	Check the mounting state of the fuser thermistor M and S. If any problem is found, repair it.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6050	**Fuser thermistor abnormal temperature detection** • During copying, the temperature at the heat roller lower than 120 °C/248 °F is detected continuously for 5 s.	Installation defectiveness on fuser thermistor M and S.	Check the mounting state of the fuser thermistor M and S. If any problem is found, repair it.
		Operation on fuser thermostat.	Check for continuity. If none, replace the fuser thermostat.
		Installation defectiveness on fuser heater L, M or S.	Check the mounting state of the fuser thermistor L, M and S. If any problem is found, repair it.
		Broken fuser heater L, M and S wire.	Check for continuity. If none, replace the fuser heater L, M and S (see page 1-6-76).
C6400	**Zero-cross signal error** • The main PWB does not detect the zero-crossing signal (Z CROSS SIG) for 5 s.	Poor contact in the connector terminals.	Check the connection of connectors YC11 on the main PWB and YC6 on the DC power source PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective DC power source PWB.	Check if the zero-crossing signal is output from YC6-3 on the DC power source PWB. If not, replace the DC power source PCB.
		Defective main PWB.	Replace the main PWB if C6400 is detected while YC6-3 on the DC power source PWB outputs the zero-crossing signal.
C7200	**Broken internal thermistor wire** • The thermistor output value is 4.5 V or more.	Poor contact in the connector terminals.	Check the connection of connector YC23 on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective developing humidity sensor.	Replace the developing humidity sensor.
C7210	**Short-circuited internal thermistor** • The thermistor input value is 0.5 V or less.	Poor contact in the connector terminals.	Check the connection of connector YC23 on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective developing humidity sensor.	Replace the developing humidity sensor.
C7300	**Toner hopper problem** • Toner level is not detected when toner empty is detected.	Defective toner level detection sensor.	Replace the toner level detection sensor.
		Poor contact in the toner level detection sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
C7800	**Broken external thermistor wire** • The thermistor output value is 4.5 V or more.	Poor contact in the connector terminals.	Check the connection of connector YC13 on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective humidity sensor.	Replace the humidity sensor.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7810	**Short-circuited external thermistor** • The thermistor input value is 0.5 V or less.	Poor contact in the connector terminals.	Check the connection of connector YC13 on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective humidity sensor.	Replace the humidity sensor.
C8010	**Document finisher* paper conveying motor problem** • The LOCK signal of the paper conveying motor is detected for more than 500 ms while the paper conveying motor is operating. However, the first 1 s after the paper conveying motor is turned on is excluded from detection.	Loose connection of the paper conveying motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper conveying motor.	Replace the paper conveying motor and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8020	**Document finisher* punch motor problem** • The LOCK signal of the punch motor is detected for more than 500 ms while the punch motor is operating. However, the first 1 s after the punch motor is turned on is excluded from detection.	Loose connection of the punch motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective punch motor.	Replace the punch motor and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8030	**Document finisher* upper paper conveying belt problem** • During initialization, the intermediate tray upper sliding plate is not detected in the home position within 3 s after the belt returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem reoccurs after initialization when the front cover is opened and closed, the problem is in the upper paper conveying belt. • When the intermediate tray upper sliding plate is operated from the home position, the upper paper conveying belt home position sensor does not turn off within 1 s.	Phase shift of the upper paper conveying belt.	Correct the phase of the upper paper conveying belt and check for correct operation.
		Malfunction of the upper paper conveying belt motor.	Replace the upper paper conveying belt motor and check for correct operation.
		Malfunction of the upper paper conveying belt home position sensor.	Replace the upper paper conveying belt home position sensor and check for correct operation.
		Loose connection of the upper paper conveying belt home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Incorrect insertion of the intermediate tray.	Check whether the intermediate tray catches are damaged.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8040	**Document finisher* lower paper conveying belt problem** • During initialization, the intermediate tray lower sliding plate is not detected in the home position within 3 s after the belt returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem reoccurs after initialization when the front cover is opened and closed, the problem is in the lower paper conveying belt. • When the intermediate tray lower sliding plate is operated from the home position, the lower paper conveying belt home position sensor does not turn off within 1 s.	Phase shift of the lower paper conveying belt.	Correct the phase of the lower paper conveying belt and check for correct operation.
		Malfunction of the lower paper conveying belt motor.	Replace the lower paper conveying belt motor and check for correct operation.
		Malfunction of the lower paper conveying belt home position sensor.	Replace the lower paper conveying belt home position sensor and check for correct operation.
		Loose connection of the lower paper conveying belt home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Incorrect insertion of the intermediate tray.	Check whether the intermediate tray catches are damaged.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8140	**Document finisher* main tray problem** • When the main tray is not detected by the main tray upper limit detection sensor or the main tray load detection sensor within 20 s from the moment it starts ascending. • During main tray descent, the main tray upper limit detection sensor or the main tray load detection sensor does not turn off within 500 ms after it turns on. • During main tray ascent, the main tray upper limit detection sensor or the main tray load detection sensor stays on for more than 2 s.	Loose connection of the main tray elevation motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the main tray elevation motor.	Replace the main tray elevation motor and check for correct operation.
		Malfunction of the main tray upper limit detection sensor.	Replace the main tray upper limit detection sensor and check for correct operation.
		Loose connection of the main tray upper limit detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the main tray load detection sensor.	Replace the main tray load detection sensor and check for correct operation.
		Loose connection of the main tray load detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8150	**Document finisher* multi job tray problem** • When the multi job tray is not detected by the multi job tray upper limit detection sensor within 15 s from the moment it starts ascending. • During multi job tray descent, the multi job tray upper limit detection sensor does not turn off within 500 ms after it turns on.	Loose connection of the multi job tray elevation motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the multi job tray elevation motor.	Replace the multi job tray elevation motor and check for correct operation.
		Malfunction of the multi job tray upper limit detection sensor.	Replace the multi job tray upper limit detection sensor and check for correct operation.
		Loose connection of the multi job tray upper limit detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8170	**Document finisher* front upper side registration guide problem** • During initialization, the front upper side registration guide is not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front upper side registration guide. • When the front upper side registration guide is operated from the home position, the front upper side registration home position sensor does not turn off within 500 ms.	Loose connection of the front upper side registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front upper side registration guide motor.	Replace the front upper side registration guide motor and check for correct operation.
		Malfunction of the front upper side registration guide home position sensor.	Replace the front upper side registration guide home position sensor and check for correct operation.
		Loose connection of the front upper side registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8180	**Document finisher* rear upper side registration guide problem** • During initialization, the rear upper side registration guide is not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear upper side registration guide. • When the rear upper side registration guide is operated from the home position, the rear upper side registration home position sensor does not turn off within 500 ms.	Loose connection of the rear upper side registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear upper side registration guide motor.	Replace the rear upper side registration guide motor and check for correct operation.
		Malfunction of the rear upper side registration guide home position sensor.	Replace the rear upper side registration guide home position sensor and check for correct operation.
		Loose connection of the rear upper side registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8190	**Document finisher* lower side registration guide problem** • During initialization, the front/rear lower side registration guides are not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the lower side registration guide. • When the lower side registration guide is operated from the home position, the lower side registration home position sensor does not turn off within 500 ms.	Loose connection of the lower side registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the lower side registration guide motor.	Replace the lower side registration guide motor and check for correct operation.
		Malfunction of the lower side registration guide home position sensor.	Replace the lower side registration guide home position sensor and check for correct operation.
		Loose connection of the lower side registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8210	**Document finisher* front stapler problem** • During initialization, the front stapler is not detected in the home position within 500 ms after the front stapler returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front stapler. • When the front stapler is operated from the home position, the front stapler home position sensor does not turn off within 500 ms.	Loose connection of the front stapler motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front stapler motor.	Replace the front stapler motor and check for correct operation.
		Malfunction of the front stapler home position sensor.	Replace the front stapler home position sensor and check for correct operation.
		Loose connection of the front stapler home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8220	**Document finisher* front clincher problem** • During initialization, the front clincher is not detected in the home position within 500 ms after the front clincher returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front clincher. • When the front clincher is operated from the home position, the front clincher home position sensor does not turn off within 500 ms.	Loose connection of the front clincher motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front clincher motor.	Replace the front clincher motor and check for correct operation.
		Malfunction of the front clincher home position sensor.	Replace the front clincher home position sensor and check for correct operation.
		Loose connection of the front clincher home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8230	**Document finisher* rear stapler problem** • During initialization, the rear stapler is not detected in the home position within 500 ms after the rear stapler returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear stapler. • When the rear stapler is operated from the home position, the rear stapler home position sensor does not turn off within 500 ms.	Loose connection of the rear stapler motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear stapler motor.	Replace the rear stapler motor and check for correct operation.
		Malfunction of the rear stapler home position sensor.	Replace the rear stapler home position sensor and check for correct operation.
		Loose connection of the rear stapler home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

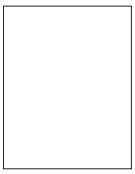
Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8240	**Document finisher* rear clincher problem** • During initialization, the rear clincher is not detected in the home position within 500 ms after the rear clincher returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear clincher. • When the rear clincher is operated from the home position, the rear clincher home position sensor does not turn off within 500 ms.	Loose connection of the rear clincher motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear clincher motor.	Replace the rear clincher motor and check for correct operation.
		Malfunction of the rear clincher home position sensor.	Replace the rear clincher home position sensor and check for correct operation.
		Loose connection of the rear clincher home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8300	**Document finisher* centerfold unit communication problem** • Communication with the centerfold unit is not possible although the connection is detected.	Loose connection of the centerfold unit set switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit set switch.	Replace the centerfold unit set switch and check for correct operation.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8310	**Document finisher* centerfold unit side registration guide problem** • During initialization, the front/rear side registration guides are not detected in the home position within 600 ms after the guide returns to the home position. • When the side registration guide is operated from the home position, the side registration guide home position sensor does not turn off within 100 ms.	Loose connection of the side registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the side registration guide motor.	Replace the side registration guide motor and check for correct operation.
		Malfunction of the side registration guide home position sensor.	Replace the side registration guide home position sensor and check for correct operation.
		Loose connection of the side registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8320	**Document finisher* centerfold unit centering plate problem** • During initialization, the centering plate is not detected in the home position when the centering plate returns to the home position.	Loose connection of the centering plate motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the centering plate motor.	Replace the centering plate motor and check for correct operation.
		Malfunction of the centering plate home position sensor.	Replace the centering plate home position sensor and check for correct operation.
		Loose connection of the centering plate home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.
C8330	**Document finisher* centerfold blade problem** • During initialization, the centerfold blade is not detected in the home position within a specified period of time.	Loose connection of the centerfold blade motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the centerfold blade motor.	Replace the centerfold blade motor and check for correct operation.
		Malfunction of the centerfold blade home position sensor.	Replace the centerfold blade home position sensor and check for correct operation.
		Loose connection of the centerfold blade home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.
C9040	**DP lift motor going up error**	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Malfunction of the DP lift upper limit switch.	Replace the DP lift upper limit switch and check for correct operation.
		Loose connection of the DP lift upper limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C9050	**DP lift motor going down error**	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Malfunction of the DP lift lower limit switch.	Replace the DP lift lower limit switch and check for correct operation.
		Loose connection of the DP lift lower limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
C9060	**DP EEPROM error** • Read and write data does not match. • Data in the specified area of the backup memory does not match the specified values.	Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C9070	**Communication problem between DP and SHD** • A communication error is detected.	Loose connection of the SHD PWB.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective SHD PWB.	Replace the SHD PWB and check for correct operation.
C9080	**Communication problem between DP and CIS**	Loose connection of CIS.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective CIS.	Replace CIS and check for correct operation.

1-5-3 Image formation problems

(1) No image appears (entirely white).

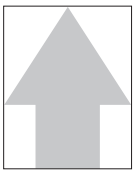


See page 1-5-48

(2) No image appears (entirely black).

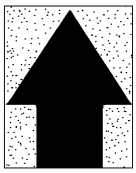
See page 1-5-49

(3) Image is too light.



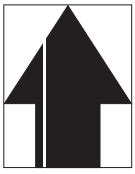
See page 1-5-50

(4) Background is visible.



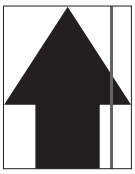
See page 1-5-51

(5) A white line appears longitudinally.



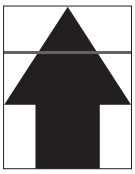
See page 1-5-51

(6) A black line appears longitudinally.



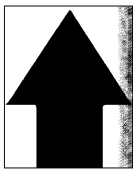
See page 1-5-51

(7) A black line appears laterally.



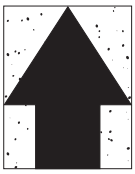
See page 1-5-52

(8) One side of the copy image is darker than the other.



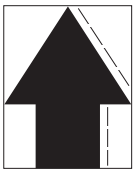
See page 1-5-52

(9) Black dots appear on the image.



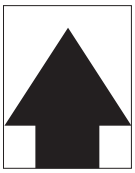
See page 1-5-52

(10) Image is blurred.



See page 1-5-53

(11) The leading edge of the image is consistently misaligned with the original.

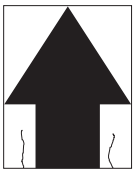


See page 1-5-53

(12) The leading edge of the image is sporadically misaligned with the original.

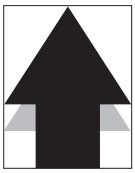
See page 1-5-53

(13) Paper creases.



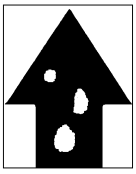
See page 1-5-54

(14) Offset occurs.



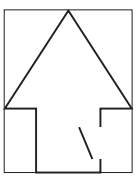
See page 1-5-54

(15) Image is partly missing.



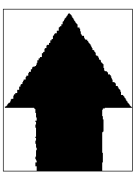
See page 1-5-54

(16) Fusing is poor.



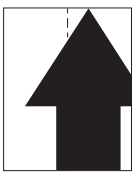
See page 1-5-55

(17) Image is out of focus.



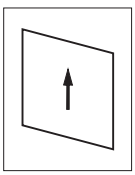
See page 1-5-55

(18) Image center does not align with the original center.



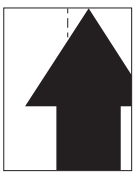
See page 1-5-55

(19) Image is not square.



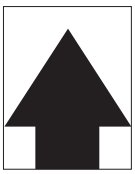
See page 1-5-56

(20) There is a regular error between the centers of the original and copy image when the DP is used.



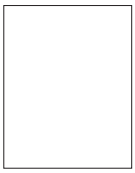
See page 1-5-56

(21) There is a regular error between the leading edges of the original and copy image when the DP is used.



See page 1-5-56

(1) No image appears (entirely white).



Causes
1. No transfer charging.
2. No LSU laser is output.
3. No developing bias is output.

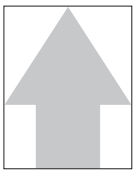
Causes	Check procedures/corrective measures
1. No transfer charging.	
A. The connector terminals of the transfer high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
B. Defective engine PWB.	Check if YC6-11 on the engine PWB goes low when maintenance item U101 is run. If not, replace the engine PWB.
C. Defective transfer high voltage PWB.	Replace the transfer unit (see page 1-6-61).
2. No LSU laser is output.	
A. Defective laser scanner unit.	Replace the laser scanner unit (see page 1-6-42).
B. Defective main PWB.	Check if YC1-14 on the main PWB goes low when maintenance item U101 is run. If not, replace the main PWB.
3. No developing bias is output.	
A. Defective engine PWB.	Check if YC7-5 and YC7-6 on the engine PWB go low when maintenance item U101 is run. If not, replace the engine PWB.
B. Defective high voltage PWB.	Check if developing bias voltage is output when the engine PWB is normal while maintenance item U101 is run. If not, replace the high voltage PWB.

(2) No image appears (entirely black).

Causes
1. No main charging.
2. Exposure lamp fails to light.
3. CIS fails to light.
4. The laser of laser scanner unit has lit up all.

Causes	Check procedures/corrective measures
1. No main charging.	
A. Poor insertion main charger unit.	Reinstall the main charger unit.
B. Broken main charger wire.	Replace the wire (see page 1-6-33).
C. Leaking main charger housing.	Clean the main charger wire and grid.
D. The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
E. Defective engine PWB.	Check if YC7-9 on the engine PWB goes low when maintenance item U100 is run. If not, replace the engine PWB.
F. Defective high voltage PWB.	Check if main charging takes place when YC1-3 on the high voltage PWB goes low while maintenance item U100 is run. If not, replace the high voltage PWB.
2. Exposure lamp fails to light.	
A. The connector terminals of the exposure lamp make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
B. Defective inverter PWB.	Check if the exposure lamp lights when CN2-1 and CN2-4 on the inverter PWB go low while maintenance item U061 is run. If not, replace the inverter PWB.
C. Defective scanner PWB.	Check if YC4-3 on the scanner PWB goes low when maintenance item U061 is run. If not, replace the scanner PWB.
3. CIS fails to light.	
A. The connector terminals of the CIS make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
B. Defective DP inverter PWB.	Check if the CIS lights when the connectors on the DP inverter PWB go low while maintenance item U061 is run. If not, replace the DP inverter PWB.
C. Defective DP main PWB.	Check if YC12-2 on the DP main PWB goes low when maintenance item U061 is run. If not, replace the DP main PWB.
4. The laser of laser scanner unit has lit up all.	
A. Defective laser scanner unit.	Replace the laser scanner unit (see page 1-6-42).
B. Defective main PWB.	Replace the main PWB.

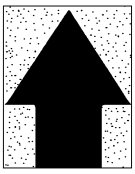
(3) Image is too light.



Causes
1. Insufficient toner.
2. Deteriorated toner.
3. The transfer voltage is not output properly.
4. Defective developing bias output.
5. Surface potential is high.

Causes	Check procedures/corrective measures
1. Insufficient toner.	If the display shows the message requesting toner replenishment, replace the toner container.
2. Deteriorated toner.	Perform the drum refresh operation (see page 1-4-84).
3. The transfer voltage is not output properly.	
A. The connector terminals of the transfer high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
B. Poor insertion transfer unit.	Reinstall the transfer unit.
C. Continuity malfunction inside the transfer belt.	Check for continuity. If none, remedy or replace.
4. Defective developing bias output.	
A. Defective engine PWB.	Check if YC7-5 both or one side of YC7-6 on the engine PWB go low when run maintenance item U101. If not, replace the engine PWB. Check if 5 V DC is output from YC7-3 on the engine PWB when run maintenance item U101. If not, replace the engine PWB.
5. Surface potential is high.	
A. Poor installation of high voltage PWB.	Check the installation state of the high voltage PWB.
B. Defective high voltage PWB.	If the grit output is zero when the high voltage PWB is installed securely, replace the high voltage PWB.

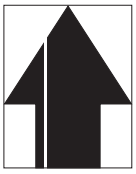
(4) Background is visible.



Causes
1. Deteriorated toner.
2. Dirty main charger wire.

Causes	Check procedures/corrective measures
1. Deteriorated toner.	Perform the drum refresh operation (see page 1-4-84).
2. Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it.

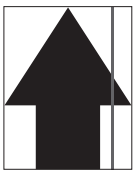
(5) A white line appears longitudinally.



Causes
1. Foreign matter in the developing unit.
2. Flawed drum.
3. Dirty shading plate.
4. Dirty DP separation roller.
5. Foreign matter in the laser scanner unit.
6. Dirty CIS or CIS roller.

Causes	Check procedures/corrective measures
1. Foreign matter in the developing unit.	Check if the magnetic brush is formed uniformly. If not, replace the developer.
2. Flawed drum.	Replace the drum (see page 1-6-56).
3. Dirty shading plate.	Clean the shading plate.
4. Dirty DP separation roller.	Clean the DP separation roller.
5. Foreign matter in the laser scanner unit.	Replace the laser scanner unit (see page 1-6-42).
6. Dirty CIS or CIS roller.	Clean the CIS or CIS roller.

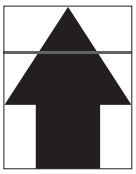
(6) A black line appears longitudinally.



Causes
1. Dirty or flawed drum.
2. Deformed or worn cleaning blade.
3. Dirty contact glass.
4. Dirty scanner mirror.
5. Dirty upper and lower slit glass.
6. Dirty main charger wire.
7. Dirty or flawed press roller.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Clean the drum. If the drum is flawed, replace the drum (see page 1-6-56).
2. Deformed or worn cleaning blade.	Replace the cleaning blade.
3. Dirty contact glass.	Clean the contact glass.
4. Dirty scanner mirror.	Clean the scanner mirror.
5. Dirty upper and lower slit glass.	Clean the upper and lower slit glass.
6. Dirty main charger wire.	Clean the main charger wire or, if it is extremely dirty, replace it.
7. Dirty or flawed press roller.	Clean the press roller.

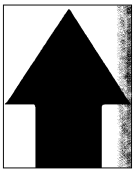
(7) A black line appears laterally.



Causes
1. Flawed drum.
2. Dirty developing section.
3. Leaking main charger housing.
4. Contact failure of developing bias terminal.

Causes	Check procedures/corrective measures
1. Flawed drum.	Replace the drum (see page 1-6-56).
2. Dirty developing section.	Clean any part contaminated with toner in the developing section.
3. Leaking main charger housing.	Clean the main charger wire and grid.
4. Contact failure of developing bias terminal.	
A. Poor installation of high voltage PWB.	Check the installation state of the high voltage PWB.

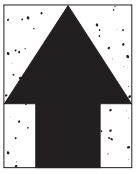
(8) One side of the copy image is darker than the other.



Causes
1. Dirty main charger wire.
2. Defective exposure lamp.
3. Defective CIS.

Causes	Check procedures/corrective measures
1. Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it (see page 1-6-33).
2. Defective exposure lamp.	Check if the exposure lamp light is distributed evenly. If not, replace the exposure lamp (see page 1-6-34).
3. Defective CIS.	Check if the CIS light is distributed evenly. If not, replace the CIS (see page 1-6-87).

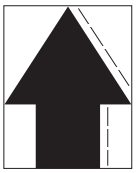
(9) Black dots appear on the image.



Causes
1. Dirty or flawed drum.
2. Dirty contact glass.
3. Dirty DP section.
4. Deformed or worn cleaning blade.
5. Flawed developing roller.
6. Dirty heat roller separation claws.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Clean the drum. If the drum is flawed, replace the drum (see page 1-6-56).
2. Dirty contact glass.	Clean the contact glass.
3. Dirty DP section.	Clean the DP section.
4. Deformed or worn cleaning blade.	Clean the cleaning blade.
5. Flawed developing roller.	Replace the developing unit (see page 1-6-60).
6. Dirty heat roller separation claws.	Clean the heat roller separation claws.

(10) Image is blurred.



Causes
1. Scanner moves erratically.
2. Deformed press roller.
3. Paper conveying section drive problem.

Causes	Check procedures/corrective measures
1. Scanner moves erratically.	Check if there is any foreign matter on the front and rear scanner rails. If any, remove it.
2. Deformed press roller.	Replace the press roller (see page 1-6-72).
3. Paper conveying section drive problem.	Check the gears and belts and, if necessary, grease them.

(11) The leading edge of the image is consistently misaligned with the original.

Causes
1. Misadjusted leading edge registration.
2. Misadjusted scanner leading edge registration.
3. Registration motor operating incorrectly.
4. Misadjusted the amount of slack in the paper.

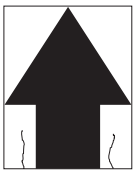
Causes	Check procedures/corrective measures
1. Misadjusted leading edge registration.	Readjust the leading edge registration (see page 1-6-25).
2. Misadjusted scanner leading edge registration.	Readjust the scanner leading edge registration (see page 1-6-54).
3. Registration motor operating incorrectly.	Check the installation of the registration motor. If it operates incorrectly, replace it.
4. Misadjusted the amount of slack in the paper.	Run maintenance item U051 to readjust the amount of slack in the paper.

(12) The leading edge of the image is sporadically misaligned with the original.

Causes
1. Registration motor, MP feed motor, paper feed motor 1, paper feed motor 2, paper feed motor 3 or paper feed motor 4 installed or operating incorrectly.

Causes	Check procedures/corrective measures
1. Registration motor, MP feed motor, paper feed motor 1, paper feed motor 2, paper feed motor 3 or paper feed motor 4 installed or operating incorrectly.	Check the installation position and operation of the registration motor, MP feed motor, paper feed motor 1, paper feed motor 2, paper feed motor 3 and paper feed motor 4. If any of them operates incorrectly, replace it.

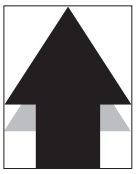
(13) Paper creases.



Causes
1. Paper curled.
2. Paper damp.
3. Defective pressure nuts.
4. Defective separation.

Causes	Check procedures/corrective measures
1. Paper curled.	Check the paper storage conditions.
2. Paper damp.	Check the paper storage conditions.
3. Defective pressure nuts.	Tighten the fuser pressure nuts.
4. Defective separation.	Check the heat roller separation claws.

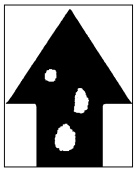
(14) Offset occurs.



Causes
1. Defective cleaning blade.
2. Wrong types of paper.
3. The paper is not loaded correctly.
4. Defective fuser section.
5. Decrease of surface potential.

Causes	Check procedures/corrective measures
1. Defective cleaning blade.	Replace the cleaning blade.
2. Wrong types of paper.	Check if the paper meets specifications. Also check if the specifying the paper type of machine default is proper (see page 1-4-80).
3. The paper is not loaded correctly.	Load the paper correctly.
4. Defective fuser section.	Check the heat roller and press roller.
5. Decrease of surface potential.	Run the maintenance item U100 (see page 1-4-30). If the problem is not solved, clean the main charger wire.

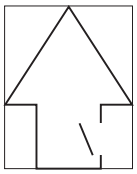
(15) Image is partly missing.



Causes
1. Paper damp.
2. Paper creased.
3. Drum condensation.
4. Flawed drum.
5. Flawed transfer belt.
6. Dirt on the back surface of the contact glass and on the surface of the scanner mirror.

Causes	Check procedures/corrective measures
1. Paper damp.	Check the paper storage conditions.
2. Paper creased.	Replace the paper.
3. Drum condensation.	Clean the drum.
4. Flawed drum.	Replace the drum (see page 1-6-56).
5. Flawed transfer belt.	Replace the transfer unit (see page 1-6-61).
6. Dirt on the back surface of the contact glass and on the surface of the scanner mirror.	Clean the contact glass and scanner mirror.

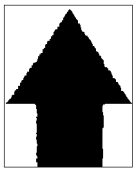
(16) Fusing is poor.



Causes
1. Wrong paper.
2. Defective pressure nuts.
3. Flawed heat roller or press roller.
4. Defective fuser heater.

Causes	Check procedures/corrective measures
1. Wrong paper.	Check if the paper meets specifications. Also check if the specifying the paper type of machine default is proper (see page 1-4-80).
2. Defective pressure nuts.	Tighten the fuser pressure nuts.
3. Flawed heat roller or press roller.	Replace the heat roller or press roller (see page 1-6-79).
4. Defective fuser heater.	Replace the fuser heater (see page 1-6-76).

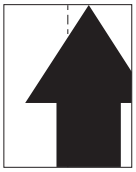
(17) Image is out of focus.



Causes
1. Defective image scanning unit.
2. Drum condensation.

Causes	Check procedures/corrective measures
1. Defective image scanning unit.	Replace the image scanning unit (see page 1-6-46).
2. Drum condensation.	Clean the drum.

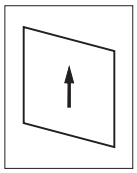
(18) Image center does not align with the original center.



Causes
1. Misadjusted center line of image printing.
2. Misadjusted scanner center line.
3. Original placed incorrectly.

Causes	Check procedures/corrective measures
1. Misadjusted center line of image printing.	Readjust the center line of image printing (see page 1-6-46).
2. Misadjusted scanner center line.	Readjust the scanner center line (see page 1-6-53).
3. Original placed incorrectly.	Place the original correctly.

(19) Image is not square.

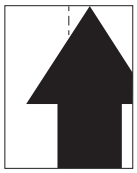


Causes
1. Laser scanner unit positioned incorrectly.
2. Image scanning unit positioned incorrectly.

Causes	Check procedures/corrective measures
1. Laser scanner unit positioned incorrectly.	Adjust the installation position of the laser scanner unit (see page 1-6-49).
2. Image scanning unit positioned incorrectly.	Adjust the installation position of the image scanning unit (see page 1-6-50).

(20) There is a regular error between the centers of the original and copy image when the DP is used.

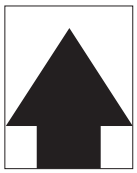
Causes
1. Misadjusted center line.



Causes	Check procedures/corrective measures
1. Misadjusted center line.	Readjust the DP center line (see page 1-6-92).

(21) There is a regular error between the leading edges of the original and copy image when the DP is used.

Causes
1. Misadjusted original scanning start position.



Causes	Check procedures/corrective measures
1. Misadjusted original scanning start position.	Readjust the DP leading timing (see page 1-6-93).

1-5-4 Electric problems

Copier

Problem	Causes	Check procedures/corrective measures
(1) The machine does not operate when the main power switch is turned on.	No electricity at the power outlet.	Measure the input voltage.
	The power cord is not plugged in properly.	Check the contact between the power plug and the outlet.
	The front cover is not closed completely.	Check the front cover.
	Broken power cord.	Check for continuity. If none, replace the cord.
	Defective main power switch.	Check for continuity across the contacts. If none, replace the main power switch.
	Blown fuse in the AC power source PWB.	Check for continuity. If none, remove the cause of blowing and replace the fuse.
	Defective front cover switch.	Check for continuity across the contacts of switch. If none, replace the switch.
(2) The developing motor does not operate (C2100).	Poor contact in the developing motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken developing motor gear.	Check visually and replace the developing motor if necessary.
	Defective developing motor.	Run maintenance item U030 and check if the developing motor operates when YC8-3 on the duplex PWB goes low. If not, replace the developing motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC8-3 on the duplex PWB goes low. If not, replace the duplex PWB.
(3) The drive motor does not operate (C2200).	Poor contact in the drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken drive motor gear.	Check visually and replace the drive motor if necessary.
	Defective drive motor.	Run maintenance item U030 and check if the drive motor operates when YC11-3 on the deck PWB goes low. If not, replace the drive motor.
	Defective deck PWB.	Run maintenance item U030 and check if YC11-3 on the deck PWB goes low. If not, replace the deck PWB.
	Defective engine PWB.	Run maintenance item U030 and check if YC3-B4 on the engine PWB goes low. If not, replace the engine PWB.
(4) The fuser motor does not operate (C2300).	Poor contact in the fuser motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken fuser motor gear.	Check visually and replace the fuser motor if necessary.
	Defective fuser motor.	Run maintenance item U030 and check if the fuser motor operates when YC4-3 on the duplex PWB goes low. If not, replace the fuser motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC4-3 on the duplex PWB goes low. If not, replace the duplex PWB.
	Defective engine PWB.	Run maintenance item U030 and check if YC2-B11 on the engine PWB goes low. If not, replace the engine PWB.

Problem	Causes	Check procedures/corrective measures
(5) The transfer motor does not operate (C2550).	Poor contact in the transfer motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken transfer motor gear.	Check visually and replace the transfer motor if necessary.
	Defective transfer motor.	Run maintenance item U030 and check if the transfer motor operates when YC3-3 on the cassette PWB goes low. If not, replace the transfer motor.
	Defective cassette PWB.	Run maintenance item U030 and check if YC3-3 on the cassette PWB goes low. If not, replace the cassette PWB.
	Defective engine PWB.	Run maintenance item U030 and check if YC4-4 on the engine PWB goes low. If not, replace the engine PWB.
(6) Paper feed motor 1 does not operate.	Poor contact in paper feed motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feed motor 1 gear.	Check visually and replace paper feed motor 1 if necessary.
	Defective paper feed motor 1.	Run maintenance item U030 and check if paper feed motor 1 operates when YC8-1, YC8-3, YC8-4 and YC8-6 on the deck PWB go low. If not, replace paper feed motor 1.
	Defective deck PWB.	Run maintenance item U030 and check if YC8-1, YC8-3, YC8-4 and YC8-6 on the deck PWB go low. If not, replace the deck PWB.
(7) Paper feed motor 2 does not operate.	Poor contact in paper feed motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feed motor 2 gear.	Check visually and replace paper feed motor 2 if necessary.
	Defective paper feed motor 2.	Run maintenance item U030 and check if paper feed motor 2 operates when YC8-7, YC8-8, YC8-9 and YC8-10 on the deck PWB go low. If not, replace paper feed motor 2.
	Defective deck PWB.	Run maintenance item U030 and check if YC8-7, YC8-8, YC8-9 and YC8-10 on the deck PWB go low. If not, replace the deck PWB.
(8) Paper feed motor 3 does not operate.	Poor contact in paper feed motor 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feed motor 3 gear.	Check visually and replace paper feed motor 3 if necessary.
	Defective paper feed motor 3.	Run maintenance item U030 and check if paper feed motor 3 operates when YC6-11, YC6-12, YC6-13 and YC6-14 on the cassette PWB go low. If not, replace paper feed motor 3.
	Defective cassette PWB.	Run maintenance item U030 and check if YC6-11, YC6-12, YC6-13 and YC6-14 on the cassette PWB go low. If not, replace the cassette PWB.

Problem	Causes	Check procedures/corrective measures
(9) Paper feed motor 4 does not operate.	Poor contact in paper feed motor 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feed motor 4 gear.	Check visually and replace paper feed motor 4 if necessary.
	Defective paper feed motor 4.	Run maintenance item U030 and check if paper feed motor 4 operates when YC6-7, YC6-8, YC6-9 and YC6-10 on the cassette PWB go low. If not, replace paper feed motor 4.
	Defective cassette PWB.	Run maintenance item U030 and check if YC6-7, YC6-8, YC6-9 and YC6-10 on the cassette PWB go low. If not, replace the cassette PWB.
(10) The feed motor does not operate.	Poor contact in the feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken feed motor gear.	Check visually and replace the feed motor C if necessary.
	Defective feed motor.	Run maintenance item U030 and check if the feed motor operates when YC2-B5 on the duplex PWB goes low. If not, replace the feed motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC2-B5 on the duplex PWB goes low. If not, replace the duplex PWB.
	Defective engine PWB.	Run maintenance item U030 and check if YC2-B7 on the engine PWB goes low. If not, replace the engine PWB.
(11) The MP feed motor does not operate.	Poor contact in the MP feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken MP feed motor gear.	Check visually and replace the MP feed motor if necessary.
	Defective MP feed motor.	Run maintenance item U030 and check if the MP feed motor operates when YC2-B6 on the deck PWB goes low. If not, replace the MP feed motor.
	Defective deck PWB.	Run maintenance item U030 and check if YC2-B6 on the deck PWB goes low. If not, replace the deck PWB.
	Defective engine PWB.	Run maintenance item U030 and check if YC3-B8 on the engine PWB goes low. If not, replace the engine PWB.
(12) The vertical feed motor does not operate.	Poor contact in the vertical feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken vertical feed motor gear.	Check visually and replace the vertical feed motor if necessary.
	Defective vertical feed motor.	Run maintenance item U030 and check if the vertical feed motor operates when YC6-1, YC6-3, YC6-4 and YC6-6 on the cassette PWB go low. If not, replace the vertical feed motor.
	Defective cassette PWB.	Run maintenance item U030 and check if YC6-1, YC6-3, YC6-4 and YC6-6 on the cassette PWB go low. If not, replace the cassette PWB.

Problem	Causes	Check procedures/corrective measures
(13) The registration motor does not operate.	Poor contact in the registration motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken registration motor gear.	Check visually and replace the registration motor if necessary.
	Defective registration motor.	Run maintenance item U030 and check if the registration motor operates when YC2-B9 on the duplex PWB goes low. If not, replace the registration motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC2-B9 on the duplex PWB goes low. If not, replace the duplex PWB.
	Defective engine PWB.	Run maintenance item U030 and check if YC2-B3 on the engine PWB goes low. If not, replace the engine PWB.
(14) The toner motor does not operate.	Poor contact in the toner motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken toner motor gear.	Check visually and replace the toner motor if necessary.
	Defective toner motor.	Run maintenance item U135 and check if the toner motor operates when YC6-7, YC6-8, YC6-9 and YC6-10 on the deck PWB go low. If not, replace the toner motor.
	Defective deck PWB.	Run maintenance item U135 and check if YC6-7, YC6-8, YC6-9 and YC6-10 on the deck PWB go low. If not, replace the deck PWB.
(15) The cleaning motor does not operate.	Poor contact in the cleaning motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken cleaning motor gear.	Check visually and replace the cleaning motor if necessary.
(16) The PTC cleaning motor does not operate.	Poor contact in the PTC cleaning motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken PTC cleaning motor gear.	Check visually and replace the PTC cleaning motor if necessary.
(17) The polygon motor does not operate.	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken polygon motor	Replace the laser scanner unit (see page 1-6-42).
(18) Lift motor 1 does not operate.	Poor contact in lift motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken lift motor 1 gear.	Check visually and replace lift motor 1 if necessary.
(19) Lift motor 2 does not operate.	Poor contact in lift motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken lift motor 2 gear.	Check visually and replace lift motor 2 if necessary.
(20) Lift motor 3 does not operate.	Poor contact in lift motor 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken lift motor 3 gear.	Check visually and replace lift motor 3 if necessary.
(21) Lift motor 4 does not operate.	Poor contact in lift motor 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken lift motor 4 gear.	Check visually and replace lift motor 4 if necessary.
(22) The scanner motor does not operate.	Poor contact in the scanner motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken scanner motor gear.	Check visually and replace the scanner motor if necessary.

Problem	Causes	Check procedures/corrective measures
(23) The duplex side registration motor does not operate.	Poor contact in the duplex side registration motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken duplex side registration motor gear.	Check visually and replace the duplex side registration motor if necessary.
	Defective duplex side registration motor.	Run maintenance item U030 and check if the duplex side registration motor operates when YC7-10, YC7-12, YC7-14 and YC7-16 on the duplex PWB go low. If not, replace the duplex side registration motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC7-10, YC7-12, YC7-14 and YC7-16 on the duplex PWB go low. If not, replace the duplex PWB.
(24) The duplex feed motor does not operate.	Poor contact in the duplex feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken duplex feed motor gear.	Check visually and replace the duplex feed motor if necessary.
	Defective duplex feed motor.	Run maintenance item U030 and check if the duplex feed motor operates when YC7-2, YC7-4, YC7-6 and YC7-8 on the duplex PWB go low. If not, replace the duplex feed motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC7-2, YC7-4, YC7-6 and YC7-8 on the duplex PWB go low. If not, replace the duplex PWB.
(25) The duplex switchback motor does not operate.	Poor contact in the duplex switchback motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken duplex switchback motor gear.	Check visually and replace the duplex switchback motor if necessary.
	Defective duplex switchback motor.	Run maintenance item U030 and check if the duplex switchback motor operates when YC7-18, YC7-20, YC7-22 and YC7-24 on the duplex PWB go low. If not, replace the duplex switchback motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC7-18, YC7-20, YC7-22 and YC7-24 on the duplex PWB go low. If not, replace the duplex PWB.
(26) Cooling fan motor 1 or 2 does not operate.	Broken cooling fan motor 1 or 2 coil.	Check for continuity across the coil. If none, replace cooling fan motor 1 or 2.
	Poor contact in cooling fan motor 1 or 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cooling fan motor 1.	Run maintenance item U037 and check if cooling fan motor 1 operates when YC2-1 on the fan motors drive PWB goes low. If not, replace cooling fan motor 1.
	Defective cooling fan motor 2.	Run maintenance item U037 and check if cooling fan motor 2 operates when YC2-3 on the fan motors drive PWB goes low. If not, replace cooling fan motor 2.
	Defective fan motors drive PWB.	Run maintenance item U037 and check if YC2-1 or YC2-3 on the fan motors drive PWB goes low. If not, replace the fan motors drive PWB.
	Defective engine PWB.	Run maintenance item U037 and check if YC13-3 on the engine PWB goes low. If not, replace the engine PWB.

Problem	Causes	Check procedures/corrective measures
(27) Cooling fan motor 3 does not operate.	Broken cooling fan motor 3 coil.	Check for continuity across the coil. If none, replace cooling fan motor 3.
	Poor contact in cooling fan motor 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cooling fan motor 3.	Run maintenance item U037 and check if cooling fan motor 3 operates when YC5-31 on the engine PWB goes low. If not, replace cooling fan motor 3.
	Defective engine PWB.	Run maintenance item U037 and check if YC5-31 on the engine PWB goes low. If not, replace the engine PWB.
(28) Cooling fan motor 4 does not operate.	Broken cooling fan motor 4 coil.	Check for continuity across the coil. If none, replace cooling fan motor 4.
	Poor contact in cooling fan motor 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cooling fan motor 4.	Run maintenance item U037 and check if cooling fan motor 4 operates when YC13-5 on the engine PWB goes low. If not, replace cooling fan motor 4.
	Defective engine PWB.	Run maintenance item U037 and check if YC13-5 on the engine PWB goes low. If not, replace the engine PWB.
(29) The scanner fan motor does not operate.	Broken scanner fan motor coil.	Check for continuity across the coil. If none, replace the scanner fan motor.
	Poor contact in scanner fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(30) The lamp fan motor does not operate.	Broken lamp fan motor coil.	Check for continuity across the coil. If none, replace the lamp fan motor.
	Poor contact in lamp fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective lamp fan motor.	Run maintenance item U037 and check if the lamp fan motor operates when YC2-1 on the scanner PWB goes low. If not, replace the lamp fan motor.
	Defective scanner PWB.	Run maintenance item U037 and check if YC2-1 on the scanner PWB goes low. If not, replace the scanner PWB.
(31) The LSU fan motor does not operate.	Broken LSU fan motor coil.	Check for continuity across the coil. If none, replace the LSU fan motor.
	Poor contact in LSU fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective LSU fan motor.	Run maintenance item U037 and check if the LSU fan motor operates when YC5-32 on the engine PWB goes low. If not, replace the LSU fan motor.
	Defective engine PWB.	Run maintenance item U037 and check if YC5-32 on the engine PWB goes low. If not, replace the engine PWB.
(32) Developing fan motor 1 or 2 does not operate.	Broken developing fan motor 1 or 2 coil.	Check for continuity across the coil. If none, replace developing fan motor 1 or 2.
	Poor contact in developing fan motor 1 or 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective developing fan motor 1.	Run maintenance item U037 and check if developing fan motor 1 operates when YC2-9 on the fan motors drive PWB goes low. If not, replace developing fan motor 1.

Problem	Causes	Check procedures/corrective measures
(32) Developing fan motor 1 or 2 does not operate.	Defective developing fan motor 2.	Run maintenance item U037 and check if developing fan motor 2 operates when YC2-11 on the fan motors drive PWB goes low. If not, replace developing fan motor 2.
	Defective fan motors drive PWB.	Run maintenance item U037 and check if YC2-9 or YC2-11 on the fan motors drive PWB goes low. If not, replace the fan motors drive PWB.
	Defective engine PWB.	Run maintenance item U037 and check if YC13-3 on the engine PWB goes low. If not, replace the engine PWB.
(33) The image formation fan motor does not operate.	Broken image formation fan motor coil.	Check for continuity across the coil. If none, replace the image formation fan motor.
	Poor contact in image formation fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective image formation fan motor.	Run maintenance item U037 and check if the image formation fan motor operates when YC5-1 on the engine PWB goes low. If not, replace the image formation fan motor.
	Defective engine PWB.	Run maintenance item U037 and check if YC5-1 on the engine PWB goes low. If not, replace the engine PWB.
(34) The developing duct fan motor does not operate.	Broken developing duct fan motor coil.	Check for continuity across the coil. If none, replace the developing duct fan motor.
	Poor contact in developing duct fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective developing duct fan motor.	Run maintenance item U037 and check if the developing duct fan motor operates when YC5-2 on the engine PWB goes low. If not, replace the developing duct fan motor.
	Defective engine PWB.	Run maintenance item U037 and check if YC5-2 on the engine PWB goes low. If not, replace the engine PWB.
(35) PWB fan motor 1 or 2 does not operate.	Broken PWB fan motor 1 or 2 coil.	Check for continuity across the coil. If none, replace PWB fan motor 1 or 2.
	Poor contact in PWB fan motor 1 or 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective PWB fan motor 1.	Run maintenance item U037 and check if PWB fan motor 1 operates when YC2-5 on the fan motors drive PWB goes low. If not, replace PWB fan motor 1.
	Defective PWB fan motor 2.	Run maintenance item U037 and check if PWB fan motor 2 operates when YC2-7 on the fan motors drive PWB goes low. If not, replace PWB fan motor 2.
	Defective fan motors drive PWB.	Run maintenance item U037 and check if YC2-5 or YC2-7 on the fan motors drive PWB goes low. If not, replace the fan motors drive PWB.
	Defective engine PWB.	Run maintenance item U037 and check if YC13-3 on the engine PWB goes low. If not, replace the engine PWB.
(36) The power source fan motor does not operate.	Broken power source fan motor coil.	Check for continuity across the coil. If none, replace the power source fan motor.
	Poor contact in power source fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Problem	Causes	Check procedures/corrective measures
(37) The feedshift fan motor does not operate.	Broken feedshift fan motor coil.	Check for continuity across the coil. If none, replace the feedshift fan motor.
	Poor contact in feedshift fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective feedshift fan motor.	Run maintenance item U037 and check if the feedshift fan motor operates when YC6-4 on the engine PWB goes low. If not, replace the feedshift fan motor.
	Defective engine PWB.	Run maintenance item U037 and check if YC6-4 on the engine PWB goes low. If not, replace the engine PWB.
(38) The duplex fan motor does not operate.	Broken duplex fan motor coil.	Check for continuity across the coil. If none, replace the duplex fan motor.
	Poor contact in duplex fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective duplex fan motor.	Run maintenance item U037 and check if the duplex fan motor operates when YC13-7 on the engine PWB goes low. If not, replace the duplex fan motor.
	Defective engine PWB.	Run maintenance item U037 and check if YC13-7 on the engine PWB goes low. If not, replace the engine PWB.
(39) The shield box fan motor does not operate.	Broken shield box fan motor coil.	Check for continuity across the coil. If none, replace the shield box fan motor.
	Poor contact in shield box fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(40) The MP solenoid does not operate.	Broken MP solenoid coil.	Check for continuity across the coil. If none, replace the MP solenoid.
	Poor contact in the MP solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PWB.	Run maintenance item U033 and check if YC3-A8 and YC3-A9 on the engine PWB go low. If not, replace the engine PWB.
	Defective deck PWB.	Run maintenance item U033 and check if YC5-A2 and YC5-A3 on the deck PWB go low. If not, replace the deck PWB.
(41) The feedshift solenoid does not operate.	Broken feedshift solenoid coil.	Check for continuity across the coil. If none, replace the feedshift solenoid.
	Poor contact in the feedshift solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PWB.	Run maintenance item U033 and check if YC6-14 and YC6-16 on the engine PWB go low. If not, replace the engine PWB.
(42) The fuser web solenoid does not operate.	Broken fuser web solenoid coil.	Check for continuity across the coil. If none, replace the fuser web solenoid.
	Poor contact in the fuser web solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine PWB.	Run maintenance item U033 and check if YC12-2 on the engine PWB goes low. If not, replace the engine PWB.

Problem	Causes	Check procedures/corrective measures
(43) The duplex feedshift solenoid does not operate.	Broken duplex feedshift solenoid coil.	Check for continuity across the coil. If none, replace the duplex feedshift solenoid.
	Poor contact in the duplex feedshift solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective duplex PWB.	Run maintenance item U033 and check if YC7-19 and YC7-21 on the duplex PWB go low. If not, replace the duplex PWB.
(44) The duplex switchback solenoid does not operate.	Broken duplex switchback solenoid coil.	Check for continuity across the coil. If none, replace the duplex switchback solenoid.
	Poor contact in the duplex switchback solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective duplex PWB.	Run maintenance item U033 and check if YC7-14 and YC7-16 on the duplex PWB go low. If not, replace the duplex PWB.
(45) The cleaning lamp does not turn on.	Poor contact in the cleaning lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cleaning lamp.	Check for continuity. If none, replace the cleaning lamp.
	Defective engine PWB.	If the cleaning lamp turns on when YC5-5 on the engine PWB is held low, replace the engine PWB.
(46) The exposure lamp does not turn on.	Poor contact in the exposure lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective scanner PWB.	Run maintenance item U061 and check if YC4-3 on the scanner PWB goes low. If not, replace the scanner PWB.
(47) The exposure lamp does not turn off.	Defective scanner PWB.	If YC4-3 on the scanner PWB is always low, replace the scanner PWB.
(48) The fuser heater lamp M, S or L does not turn on.	Broken wire in fuser heater lamp M, S or L.	Check for continuity across each heater lamp. If none, replace the fuser heater lamp M, S or L.
	Fuser thermostat triggered.	Check for continuity across thermostat. If none, remove the cause and replace the fuser thermostat.
(49) The fuser heater lamp M, S or L does not turn off.	Broken fuser thermistor M or S wire.	Measure the resistance. If it is $\infty\Omega$, replace the fuser thermistor M or S.
	Dirty sensor part of the fuser thermistor M or S.	Check visually and clean the fuser thermistor M or S sensor parts.
(50) No main charging.	Poor insertion main charger unit.	See 1-5-49.
	Broken main charger wire.	
	Leaking main charger housing.	
	Faulty connection of connector of high voltage PWB.	
	Defective engine PWB.	
	Defective high voltage PWB.	

Problem	Causes	Check procedures/corrective measures
(51) No developing bias is output.	Defective engine PWB.	See 1-5-48.
	Defective high voltage PWB.	
	Poor installation of high voltage PWB.	
(52) No transfer bias is output.	Faulty connection of connector of transfer high voltage PWB.	See 1-5-48.
	Defective engine PWB.	
	Defective transfer high voltage PWB.	
(53) The original size is not detected.	Defective original detection switch.	If the level of YC9-2 on the scanner PWB does not go low when the original detection switch is turned on and off, replace the original detection switch.
(54) The original size is not detected correctly.	Original is not placed correctly.	Check the original and correct if necessary.
	Poor contact in the original size detection sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective original size detection sensor.	Check if sensor operates correctly. If not, replace it.
(55) The touch panel keys do not work.	Poor contact in the touch panel connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective touch panel or operation PWB.	If any keys do not work after the touch panel has been initialized, replace the touch panel or operation PWB.
(56) The message requesting paper to be loaded is shown when paper is present in cassette 1.	Poor contact in paper empty switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper empty switch 1.	Check if YC7-B5 on the deck PWB goes low when paper empty switch 1 is turned on with 5 V DC present at YC7-B6 on the deck PWB. If not, replace paper empty switch 1.
(57) The message requesting paper to be loaded is shown when paper is present in cassette 2.	Poor contact in paper empty switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper empty switch 2.	Check if YC7-B11 on the deck PWB goes low when paper empty switch 2 is turned on with 5 V DC present at YC7-B12 on the deck PWB. If not, replace paper empty switch 2.
(58) The message requesting paper to be loaded is shown when paper is present in cassette 3.	Poor contact in paper empty switch 3 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper empty switch 3.	Check if YC4-9 on the cassette PWB goes low when paper empty switch 3 is turned on with 5 V DC present at YC4-7 on the cassette PWB. If not, replace paper empty switch 3.
(59) The message requesting paper to be loaded is shown when paper is present in cassette 4.	Poor contact in paper empty switch 4 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper empty switch 4.	Check if YC4-10 on the cassette PWB goes low when paper empty switch 4 is turned on with 5 V DC present at YC4-8 on the cassette PWB. If not, replace paper empty switch 4.

Problem	Causes	Check procedures/corrective measures
(60) The message requesting paper to be loaded is shown when paper is present on the MP tray.	Poor contact in the MP paper empty switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective MP paper empty switch.	Check if YC5-A5 on the deck PWB goes low when the MP paper empty switch is turned on with 5 V DC present at YC5-A4 on the deck PWB. If not, replace the MP paper empty switch.
(61) The size of paper in cassette 3 is not displayed correctly.	Poor contact in paper length size switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper length size switch 1.	Check if YC5-A12 on the cassette PWB goes low when paper length size switch 1 is turned on. If not, replace paper length size switch 1.
	Poor contact in paper width size switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper width size switch 1.	Check if the levels of YC4-15, YC4-17 and YC4-19 on the cassette PWB change alternately when the width guide in cassette 3 is moved. If not, replace paper width size switch 1.
(62) The size of paper in cassette 4 is not displayed correctly.	Poor contact in paper length size switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper length size switch 2.	Check if YC5-B3 on the cassette PWB goes low when paper length size switch 2 is turned on. If not, replace paper length size switch 2.
	Poor contact in paper width size switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper width size switch 2.	Check if the levels of YC4-16, YC4-18 and YC4-20 on the cassette PWB change alternately when the width guide in cassette 4 is moved. If not, replace paper width size switch 2.
(63) The size of paper on the MP tray is not displayed correctly.	Poor contact in the MP paper length size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective the MP paper length size switch.	Check if YC5-B5 on the deck PWB goes low when the MP paper length size switch is turned on. If not, replace the MP paper length size switch.
	Poor contact in the MP paper width size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective the MP paper width size switch.	Check if the levels of YC5-B2, YC5-B3 and YC5-B4 on the deck PWB change alternately when the width guide in the MP tray is moved. If not, replace the MP paper width size switch.

Problem	Causes	Check procedures/corrective measures
(64) A paper jam in the paper feed, paper conveying or fuser section is indicated when the main power switch is turned on.	A piece of paper torn from copy paper is caught around feed switches, deck conveying switches, registration switch or exit switch.	Check and remove if any.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 on and off manually. Replace feed switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feed switch 4.	Run maintenance item U031 and turn feed switch 4 on and off manually. Replace feed switch 4 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective feed switch 5.	Run maintenance item U031 and turn feed switch 5 on and off manually. Replace feed switch 5 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective deck conveying switch 1.	Run maintenance item U031 and turn deck conveying switch 1 on and off manually. Replace deck conveying switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective deck conveying switch 2.	Run maintenance item U031 and turn deck conveying switch 2 on and off manually. Replace deck conveying switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective registration switch.	Run maintenance item U031 and turn the registration switch on and off manually. Replace the registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective exit switch.	Run maintenance item U031 and turn the exit switch on and off manually. Replace the exit switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(65) The message requesting cover to be closed is displayed when the front cover is closed.	Poor contact in the connector terminals of front cover switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective front cover switch.	Check for continuity across each switch. If there is no continuity when the front cover switch is on, replace it.
(66) Others.	Wiring is broken, shorted or makes poor contact.	Check for continuity. If none, repair.
	Noise.	Locate the source of noise and remove.

DP

Problem	Causes	Check procedures/corrective measures
(1) The original feed motor does not operate.	Poor contact in the original feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken original feed motor gear.	Check visually and replace the original feed motor if necessary.
	Defective original feed motor.	Run maintenance item U243 and check if the original feed motor operates when YC3-1 and YC3-2 on the DP main PWB go low. If not, replace the original feed motor.
	Defective DP main PWB.	Run maintenance item U243 and check if YC3-1 and YC3-2 on the DP main PWB go low. If not, replace the DP main PWB.
(2) The original conveying motor does not operate.	Poor contact in the original conveying motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken original conveying motor gear.	Check visually and replace the original conveying motor if necessary.
	Defective original conveying motor.	Run maintenance item U243 and check if the original conveying motor operates when YC4-7 and YC4-8 on the DP main PWB go low. If not, replace the original conveying motor.
	Defective DP main PWB.	Run maintenance item U243 and check if YC4-7 and YC4-8 on the DP main PWB go low. If not, replace the DP main PWB.
(3) The original registration motor does not operate.	Poor contact in the original registration motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken original registration motor gear.	Check visually and replace the original registration motor if necessary.
	Defective original registration motor.	Run maintenance item U243 and check if the original registration motor operates when YC4-1 and YC4-2 on the DP main PWB go low. If not, replace the original registration motor.
	Defective DP main PWB.	Run maintenance item U243 and check if YC4-1 and YC4-2 on the DP main PWB go low. If not, replace the DP main PWB.
(4) The DP lift motor does not operate.	Poor contact in the DP lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken DP lift motor gear.	Check visually and replace the DP lift motor if necessary.
	Defective DP lift motor.	Run maintenance item U243 and check if the DP lift motor operates when YC3-7, YC3-8, YC3-9 and YC3-10 on the DP main PWB go low. If not, replace the DP lift motor.
	Defective DP main PWB.	Run maintenance item U243 and check if YC3-7, YC3-8, YC3-9 and YC3-10 on the DP main PWB go low. If not, replace the DP main PWB.
(5) The DP fan motor does not operate.	Broken DP fan motor coil.	Check for continuity across the coil. If none, replace the DP fan motor.
	Poor contact in DP fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Problem	Causes	Check procedures/corrective measures
(6) The CIS does not turn on.	Poor contact in the CIS connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DP inverter PWB.	Run maintenance item U061 and check if the CIS turns on when the connector on the DP inverter PWB goes low. If not, replace the DP inverter PWB.
	Defective DP main PWB.	Run maintenance item U061 and check if the CIS turns on when YC12-2 on the DP main PWB goes low. If not, replace the DP main PWB.
(7) The CIS does not turn off.	Defective DP inverter PWB.	Check if the CIS turns off when the connector on the DP inverter PWB goes high. If not, replace the DP inverter PWB.
	Defective DP main PWB.	If YC12-2 on the DP main PWB is always low, replace the DP main PWB.
(8) A message indication cover open is displayed when the DP is closed correctly.	Poor contact in DP safety switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DP safety switch 1.	Check for continuity across the contacts of the switch. If none when the switch is on, replace DP safety switch 1.
	Poor contact in DP safety switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective DP safety switch 2.	Check for continuity across the contacts of the switch. If none when the switch is on, replace DP safety switch 2.
(9) The size of original is not displayed correctly.	Poor contact in the original length size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective original length size switch.	Run maintenance item U244 and turn the original length size switch on and off manually. Replace the original length size switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Poor contact in the original width size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective original width size switch.	Check if the level of YC8-5 on the DP main PWB change alternately when the original width guides are moved. If not, replace the original width size switch.

Problem	Causes	Check procedures/corrective measures
(10) An original jams when the main power switch is turned on.	A piece of paper torn from an original is caught around the original feed switch.	Remove any found.
	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the original feed switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around the original registration switch.	Remove any found.
	Defective original registration switch.	Run maintenance item U244 and turn the original registration switch on and off manually. Replace the original registration switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around DP timing switch 1.	Remove any found.
	Defective DP timing switch 1.	Run maintenance item U244 and turn DP timing switch 1 on and off manually. Replace DP timing switch 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	A piece of paper torn from an original is caught around DP timing switch 2.	Remove any found.
	Defective DP timing switch 2.	Run maintenance item U244 and turn DP timing switch 2 on and off manually. Replace DP timing switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.

1-5-5 Mechanical problems

Copier

Problem	Causes/check procedures	Corrective measures
(1) No primary paper feed.	Check if the surfaces of the following pulleys are dirty with paper powder: paper feed pulley, forwarding pulley, separation pulley, MP paper feed pulley, MP forwarding pulley and MP separation pulley.	Clean with isopropyl alcohol.
	Check if the following pulleys are deformed: paper feed pulley, forwarding pulley, separation pulley, MP paper feed pulley, MP forwarding pulley and MP separation pulley.	Check visually and replace any deformed pulleys (see pages 1-6-3, 1-6-10 and 1-6-19).
	Electrical problem with the following motors: paper feed motor 1, paper feed motor 2, paper feed motor 3, paper feed motor 4 and MP feed motor.	See pages 1-5-58 and 1-5-59.
(2) No secondary paper feed.	Electrical problem with the following electromagnetic motors: feed motor and registration motor.	See pages 1-5-59 and 1-5-60.
(3) Skewed paper feed.	Paper width guide in a cassette installed incorrectly.	Check the paper width guide visually and correct or replace if necessary.
	Deformed paper width guide in a cassette.	Repair or replace if necessary.
	Paper length guide in a cassette installed incorrectly.	Check the paper length guide visually and correct or replace if necessary.
	Deformed paper length guide in a cassette.	Repair or replace if necessary.
	Check if a pressure spring along the paper conveying path is deformed or out of place.	Repair or replace.
(4) The scanner does not travel.	Check if the scanner wire is loose.	Reinstall the scanner wire (see page 1-6-37).
	The scanner motor malfunctions.	See page 1-5-60.
	Check if the drive belt is loose.	Reinstall the drive belt.
(5) Multiple sheets of paper are fed at one time.	Check if the separation pulley or MP separation pulley is worn.	Replace the pulley if it is worn (see pages 1-6-3, 1-6-10 and 1-6-19).
	Check if the paper is curled.	Change the paper.
(6) Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Deformed guides along the paper conveying path.	Repair or replace if necessary.
	Check if the press roller is extremely dirty or deformed.	Clean or replace the press roller (see page 1-6-72).
	Check if the contact between the heat roller and its separation claws is correct.	Repair if any springs are off the separation claws.
	The feedshift solenoid malfunctions.	See page 1-5-64
(7) Toner drops on the paper conveying path.	Check if the developing unit is extremely dirty.	Clean the developing unit.

Problem	Causes/check procedures	Corrective measures
(8) Abnormal noise is heard.	Check if the pulleys, rollers and gears operate smoothly.	Grease the bearings and gears.
	Check if the following motors are installed correctly: paper feed motor 1, paper feed motor 2, paper feed motor 3, paper feed motor 4 and MP feed motor.	Check visually and remedy if necessary.

DP

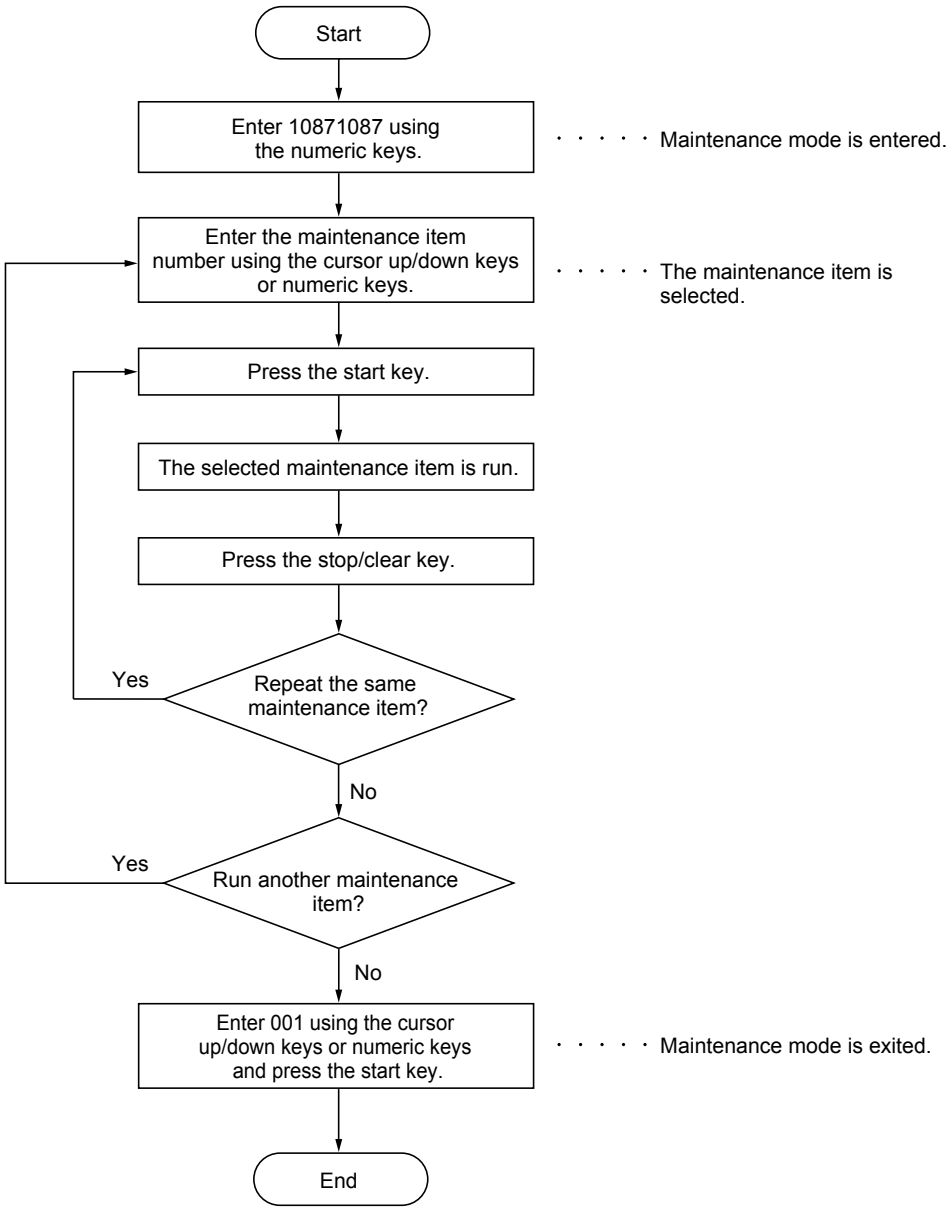
Problem	Causes/check procedures	Corrective measures
(1) No primary original feed.	The surfaces of the DP forwarding pulleys or DP feed belts are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	Check if the DP forwarding pulley is deformed.	Check visually and replace any deformed pulley (see page 1-6-83).
	Electrical problem with the original feed motor.	See page 1-5-69.
	Check if the DP feed belts are loose.	Reinstall the DP feed belts.
(2) No secondary paper feed.	The surfaces of the DP separation roller is dirty with paper powder.	Check and clean them with isopropyl alcohol if it is dirty.
	Check if the DP separation roller is deformed.	Check visually and replace any deformed roller (see page 1-6-83).
	Electrical problem with the following motors: original conveying motor and original registration motor.	See page 1-5-69.
(3) Originals jam.	Originals outside the specifications are used.	Use only originals conforming to the specifications.
	The surfaces of the DP forwarding pulley, DP feed belts or DP separation roller are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	The DP forwarding pulley and the DP separation roller do not contact each other correctly.	Check visually and remedy if necessary.

1-6-1 Precautions for assembly and disassembly

(1) Precautions

Before starting disassembly, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
When handling PWBs (printed wiring boards), do not touch parts with bare hands. The PWBs are susceptible to static charge.
Do not touch any PWB containing ICs with bare hands or any object prone to static charge.
Use only the specified parts to replace the fuser thermostat. Never substitute electric wires, as the copier may be seriously damaged.
When replacing battery on a PWB, dispose properly according to laws and regulations.

(2) Running a maintenance item


Start
Enter 10871087 using the numeric keys.
Maintenance mode is entered.
Enter the maintenance item number using the cursor up/down keys or numeric keys.
The maintenance item is selected.
Press the start key.
The selected maintenance item is run.
Press the stop/clear key.
Repeat the same maintenance item?
Yes
No
Run another maintenance item?
Yes
No
Enter 001 using the cursor up/down keys or numeric keys and press the start key.
Maintenance mode is exited.
End

1-6-2 Paper feed section

(1) Detaching and refitting the paper feed pulley, forwarding pulley and separation pulley of cassette 1 and 2

Follow the procedure below to clean or replace the paper feed pulley, forwarding pulley or separation pulley of cassette 1 and 2.

Procedure

Detaching the deck conveying unit

1. Pull out the cassette 1 and 2.
2. Open the front cover and pull the deck conveying unit out.
3. While holding the lever in the direction of arrow, remove the deck conveying unit from the machine.

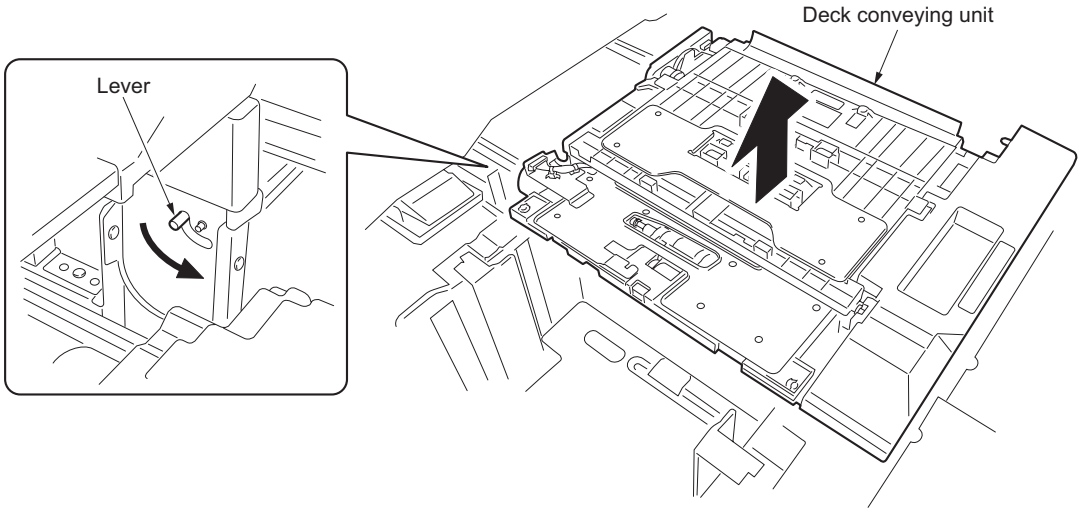


Figure 1-6-1

4. Remove the stop ring.
5. Open the deck conveying cover and slide the cover toward the front, and then remove the cover.

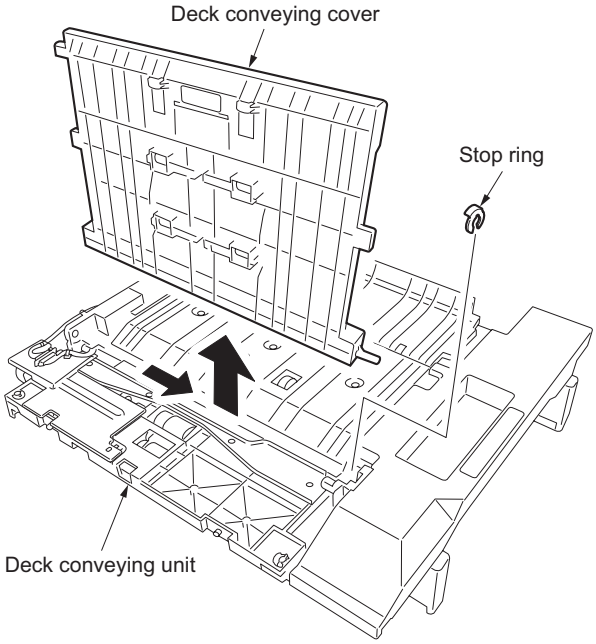


Figure 1-6-2

Detaching the paper feed pulley and forwarding pulley of cassette 1

6. Remove connector, band and two stop rings, and then open the primary paper feed unit of cassette 1.

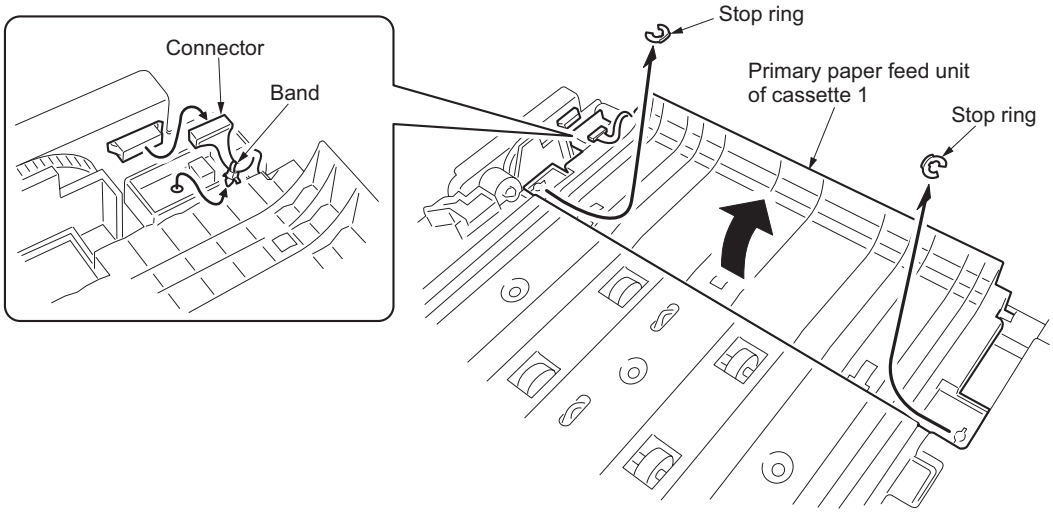


Figure 1-6-3

7. Remove two stop rings and then remove the primary paper feed of cassette 1 from the deck conveying unit.

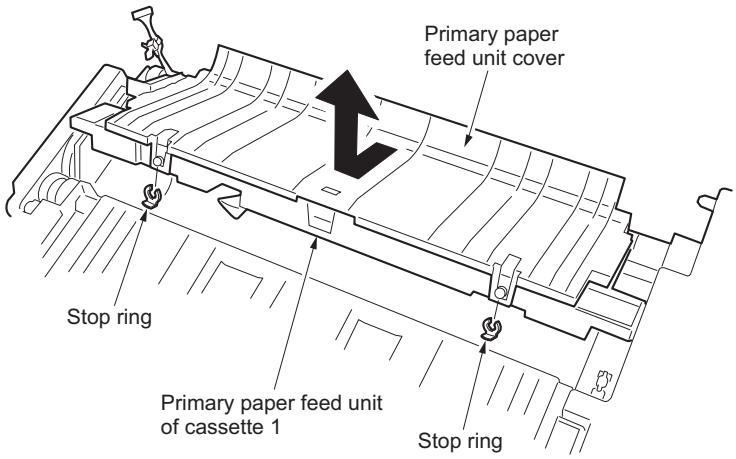


Figure 1-6-4

8. Remove the stop ring and slide the joint in the direction of the arrow.
9. Open the primary paper feed of cassette 1.

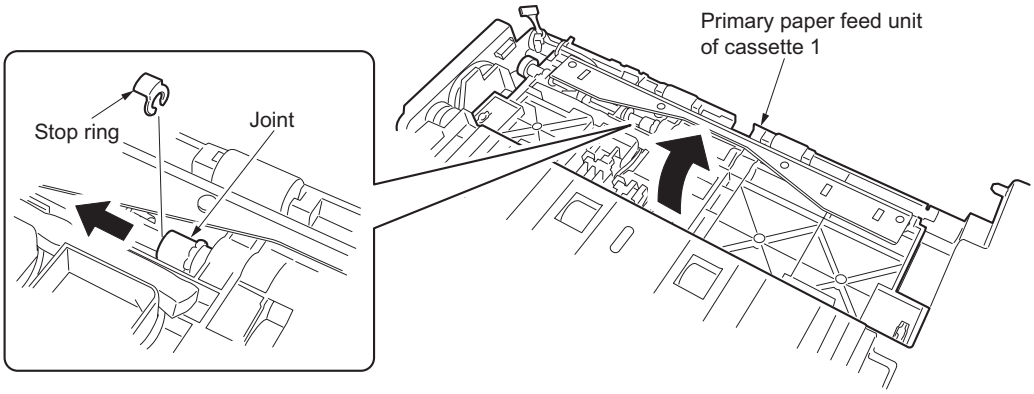


Figure 1-6-5

10. Release the hook of the paper feed pulley unit and push down the unit in the direction of the arrow.
11. Remove the paper feed pulley unit from the primary paper feed unit of cassette 1.

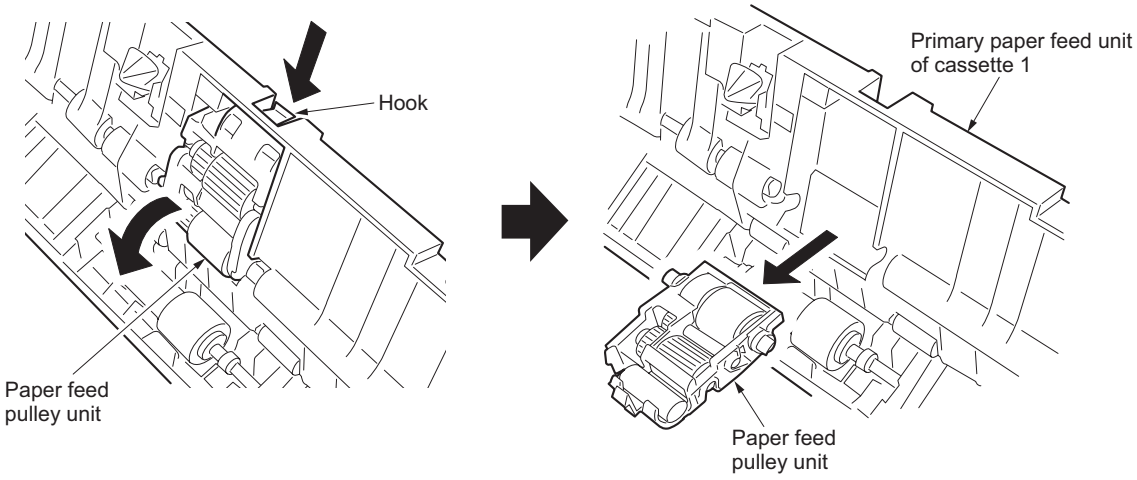


Figure 1-6-6

12. Remove two stop rings and bushes from the paper feed pulley unit, and then pull out the paper feed pulley shaft.
13. Remove the paper feed pulley and paper feed pulley gear from the paper feed pulley unit.

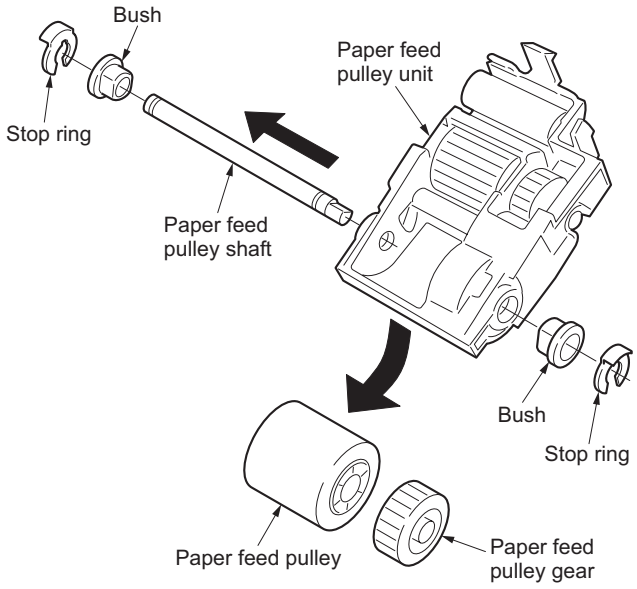


Figure 1-6-7

14. Remove the forwarding pulley shaft from the paper feed pulley unit and then remove the forwarding pulley from the shaft.

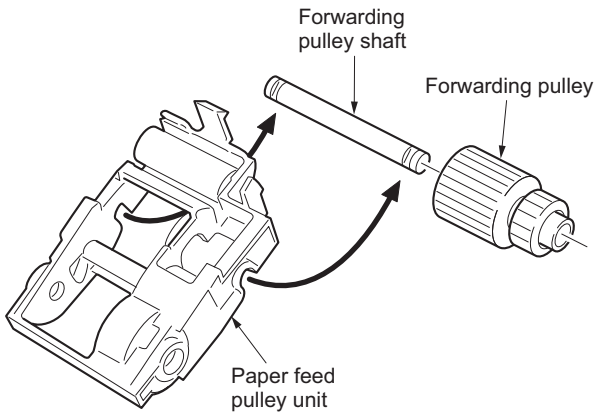


Figure 1-6-8

15. Clean or replace the paper feed pulley and forwarding pulley, and refit the pulleys to the paper feed pulley unit.
* When replacing the paper feed pulley, make sure that the one-way clutch of both the pulley and the gear is placed toward the rear side of the machine.

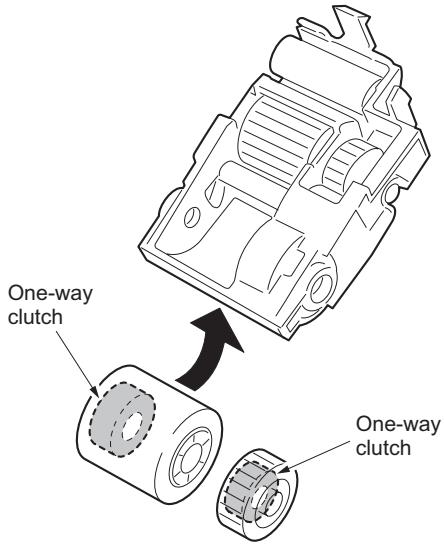


Figure 1-6-9

Detaching the separation pulley of cassette 1

16. Remove the separation pulley unit from the primary paper feed unit of cassette 1.

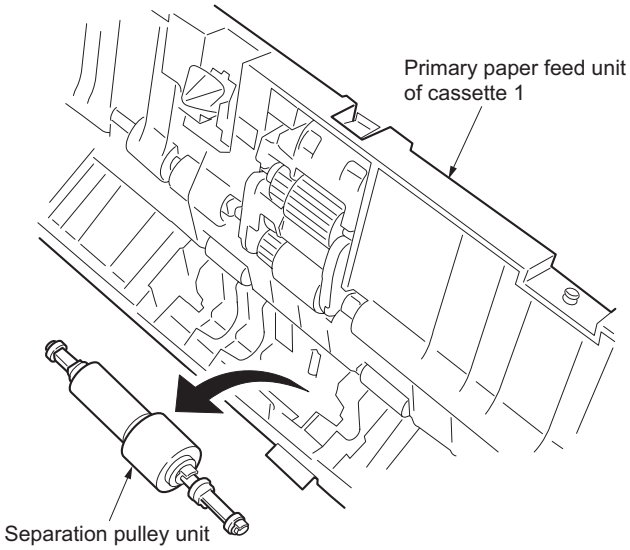


Figure 1-6-10

17. Remove two stop rings, bearing and bush from the separation pulley unit, and then remove the separation pulley.

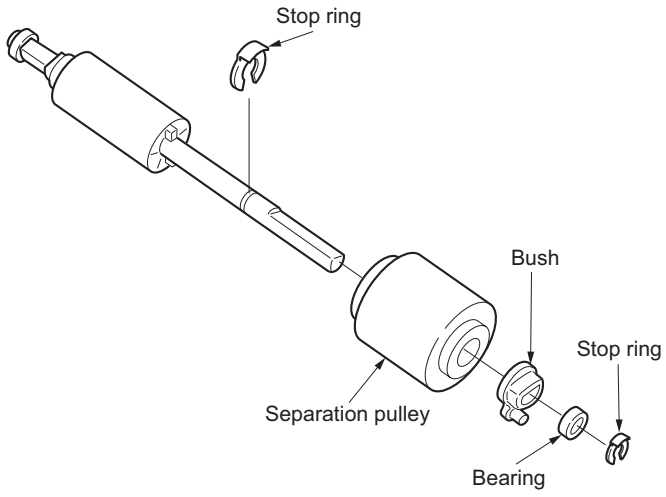


Figure 1-6-11

18. Clean or replace the separation pulley and then reattach the pulley to the separation pulley unit.
* When replacing the separation pulley, make sure that the projection of the torque limiter fits in the separation pulley groove.
19. Refit the separation pulley unit to the deck conveying unit.
20. Refit the paper feed pulley unit to the primary paper feed unit of cassette 1.
21. Insert the joint to the paper feed pulley shaft, and refit the primary paper feed unit cover to the primary paper feed unit of cassette 1.
22. Refit the primary paper feed unit of cassette 1 to the deck conveying unit.

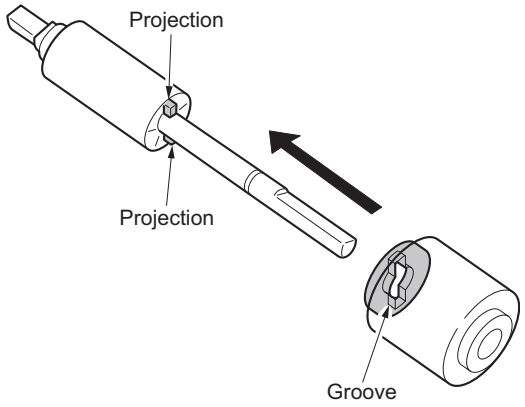


Figure 1-6-12

Detaching the paper feed pulley and forwarding pulley of cassette 2

23. Remove the stop ring and slide the joint in the direction of the arrow.
24. Remove two stop rings and open the primary paper feed unit of cassette 2.

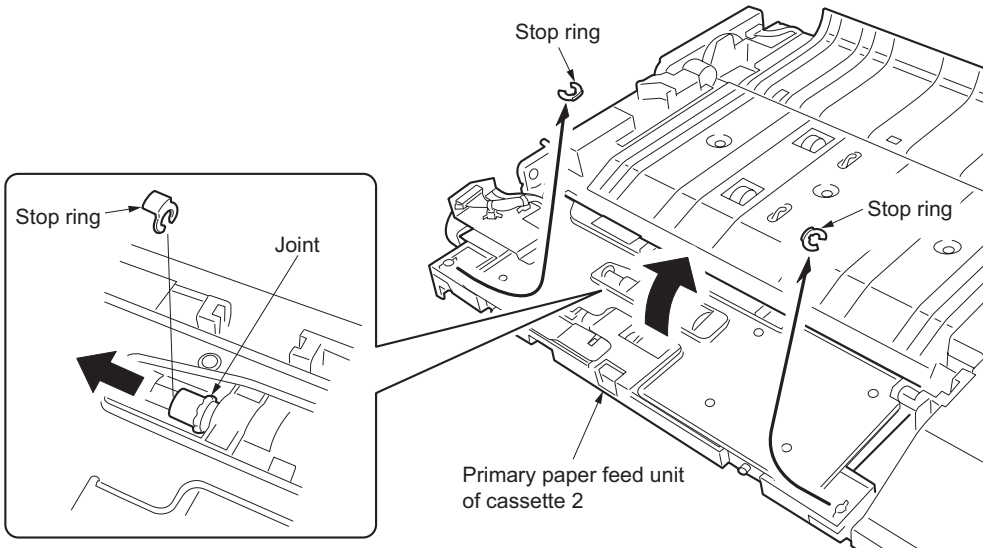


Figure 1-6-15

25. Release the hook of the paper feed pulley unit and push down the unit in the direction of the arrow.
26. Remove the paper feed unit from the primary paper feed unit of cassette 2.

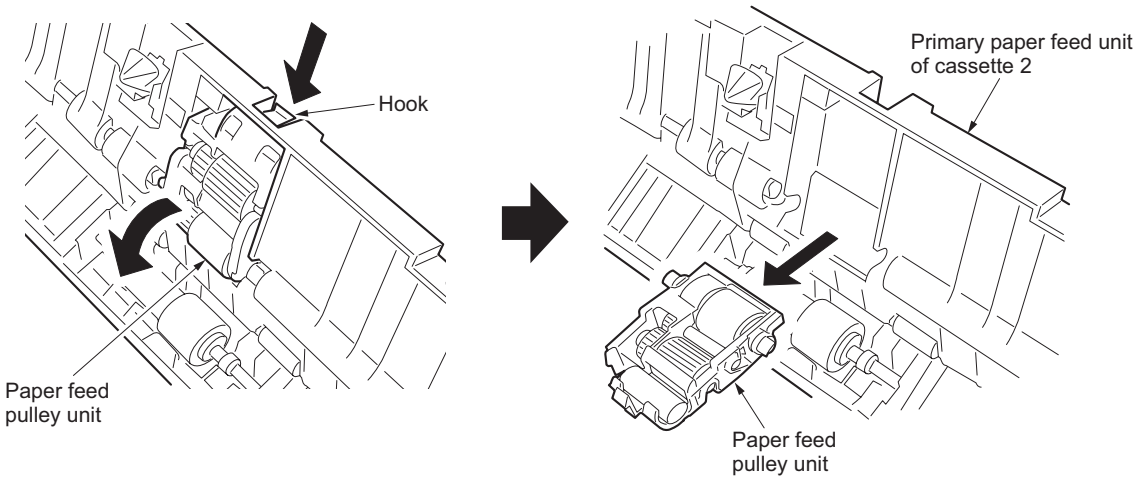


Figure 1-6-16

27. Remove the paper feed pulley and forwarding pulley from the paper feed pulley unit, and then clean or replace the pulleys (see pages 1-6-5 and 1-6-6).

Removing the separation pulley of cassette 2

28. Remove the separation pulley unit from the primary paper feed unit of cassette 2.

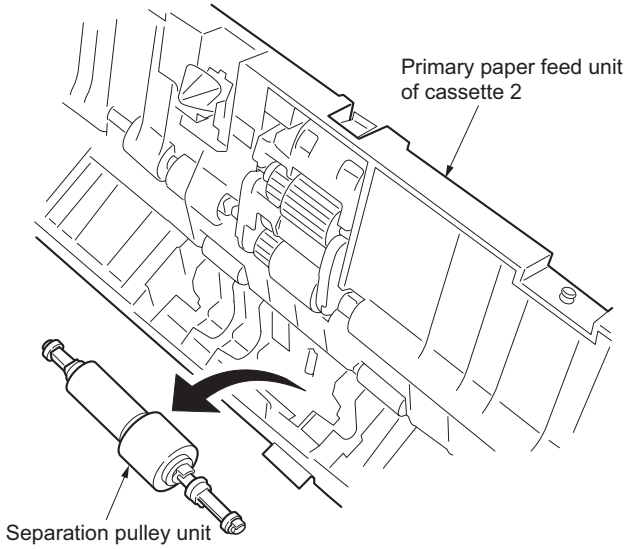


Figure 1-6-17

29. Remove the separation pulley from the separation pulley unit, and then clean or replace the pulley (see page 1-6-6).
30. Refit the separation pulley unit to the primary paper feed unit of cassette 2.
31. Refit the paper feed pulley unit to the primary paper feed unit of cassette 2.
32. Close the primary paper feed unit and insert the joint to the paper feed pulley shaft.
33. Refit three stop rings to the primary paper feed unit.
34. Refit the deck conveying unit.

(2) Detaching and refitting the paper feed pulley, forwarding pulley and separation pulley of cassette 3 and 4

Follow the procedure below to clean or replace the paper feed pulley, forwarding pulley or separation pulley of cassette 3 and 4.
Explanation of an detaching and refitting procedure is given only a cassette 3 since cassettes 3 and 4 are the same feed units.

Procedure

1. Pull out cassette 1, 3 and 4.
2. Remove the screw and then remove the front lower right cover.

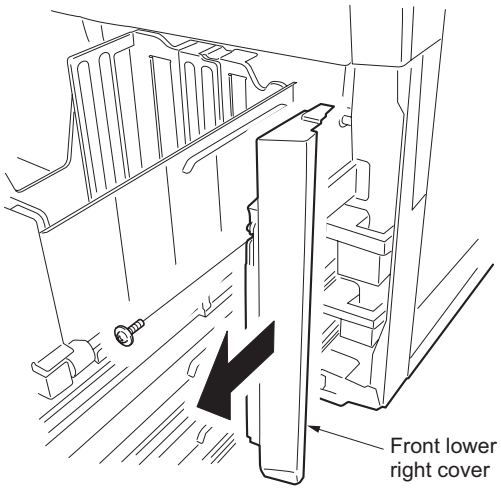


Figure 1-6-18

3. While pushing the hook of primary paper feed unit, pull out the unit forward.
4. Remove the primary paper feed unit from the machine.

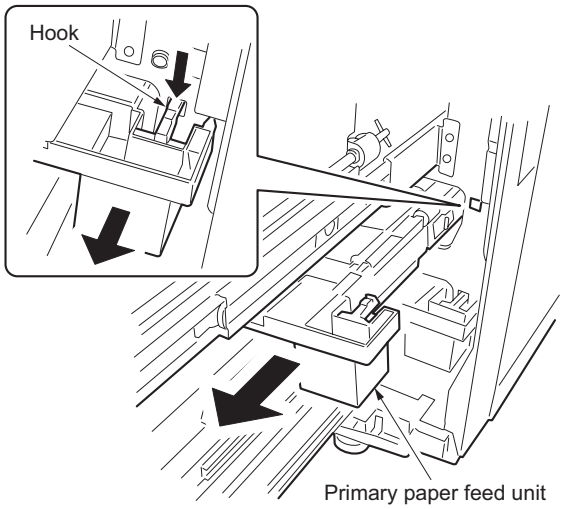


Figure 1-6-19

5. Remove the stop ring and slide the joint in the direction of the arrow.
6. Remove each stop ring of the primary paper feed unit front and rear and open the unit in the direction of the arrow.

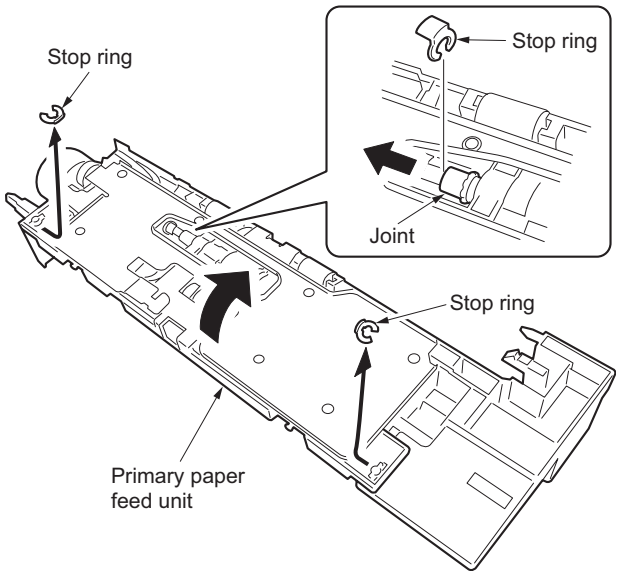


Figure 1-6-21

Detaching the paper feed pulley and forwarding pulley

7. Release the hook of the paper feed pulley unit and push down the unit in the direction of the arrow.

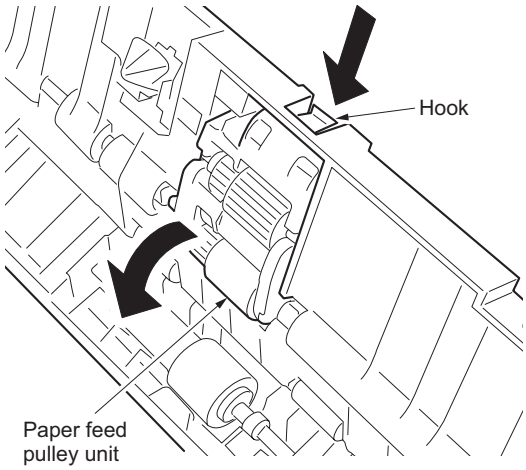


Figure 1-6-22

8. Remove the paper feed pulley unit from the primary paper feed unit.

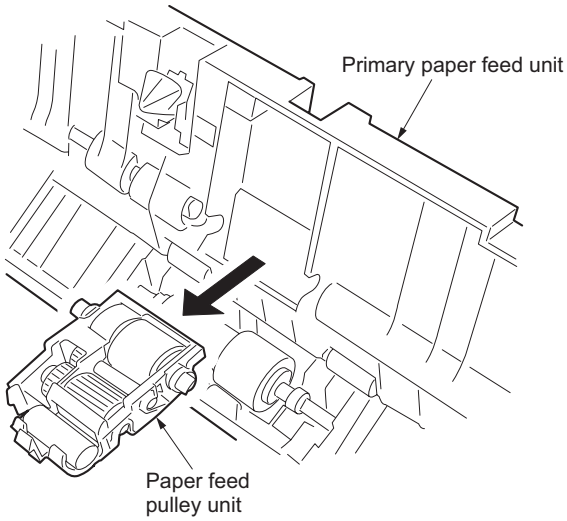


Figure 1-6-23

9. Remove two stop rings and bushes, and then pull out the paper feed pulley shaft.
10. Remove the paper feed pulley and paper feed pulley gear from the paper feed pulley unit.

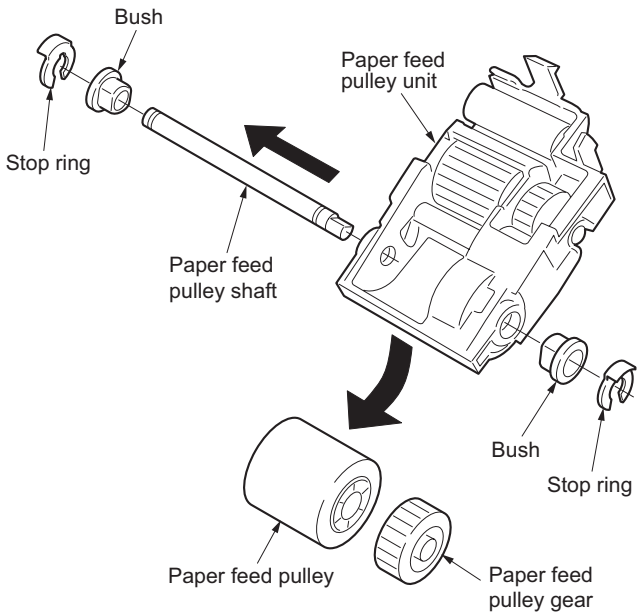


Figure 1-6-24

11. Remove the forwarding pulley shaft from the paper feed pulley unit and then remove the forwarding pulley from the shaft.

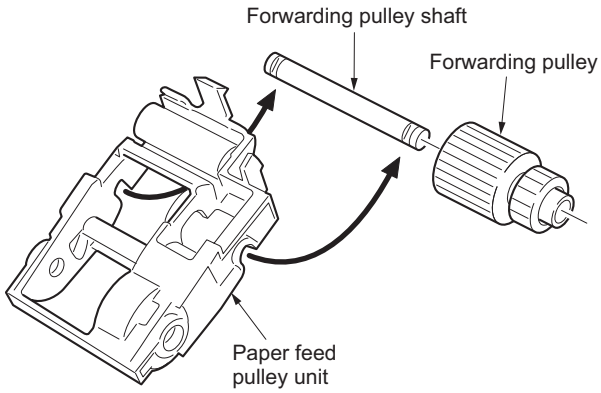


Figure 1-6-25

12. Clean or replace the paper feed pulley and forwarding pulley, and then attach the pulleys to the paper feed pulley unit.

* When replacing the paper feed pulley, make sure that the one-way clutch of both the pulley and the gear is placed toward the rear side of the machine.

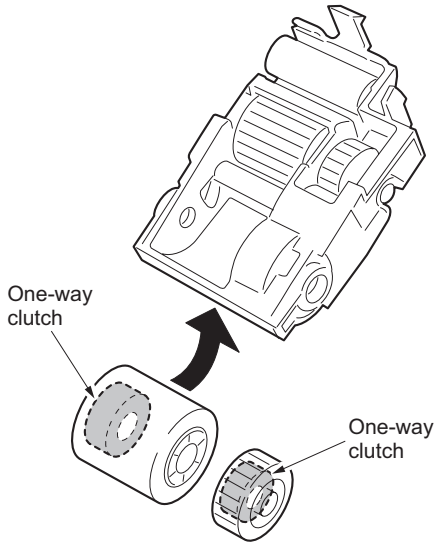


Figure 1-6-26

Detaching the separation pulley

13. Remove the separation pulley unit from the primary paper feed unit.

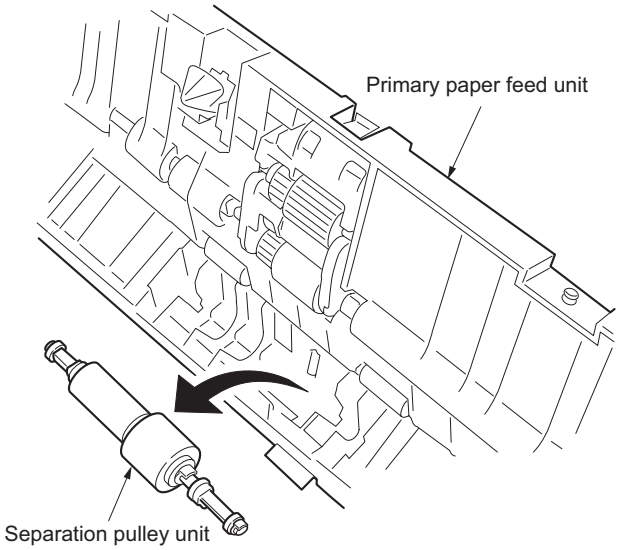


Figure 1-6-27

14. Remove the bush and stop ring from the separation pulley unit, and then remove the separation pulley.

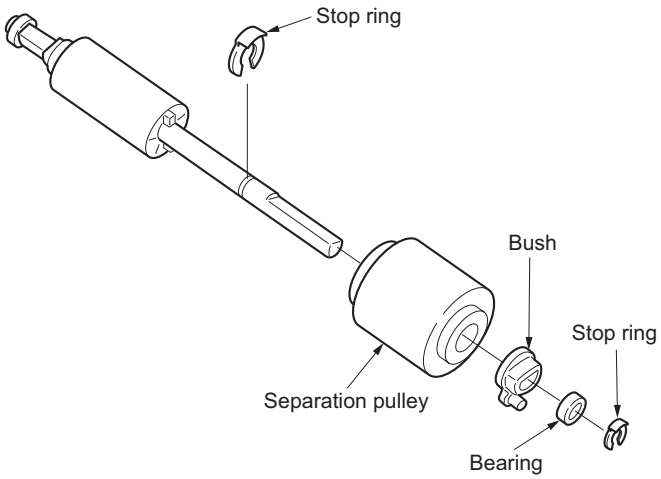


Figure 1-6-28

15. Clean or replace the separation pulley and then attach the pulley to the separation pulley unit.
    * When replacing the separation pulley, make sure that the projection of the torque limiter fits in the separation pulley groove.
16. Refit the separation pulley unit to the primary paper feed unit.
17. Refit the paper feed pulley unit to the primary paper feed unit.
18. Close the primary paper feed unit and insert the joint to the paper feed pulley shaft.
19. Refit three stop rings to the primary paper feed unit.
20. Refit the primary paper feed unit.
    * When refitting the primary paper feed unit, refit it in the respective cassette.

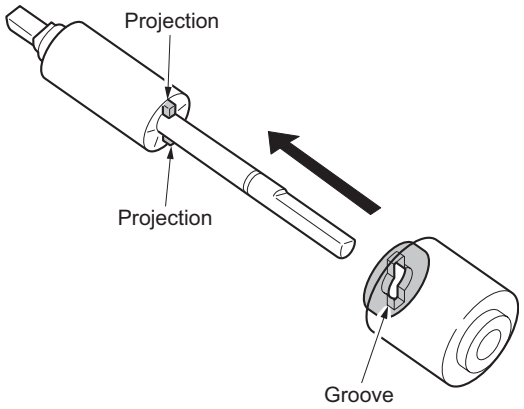
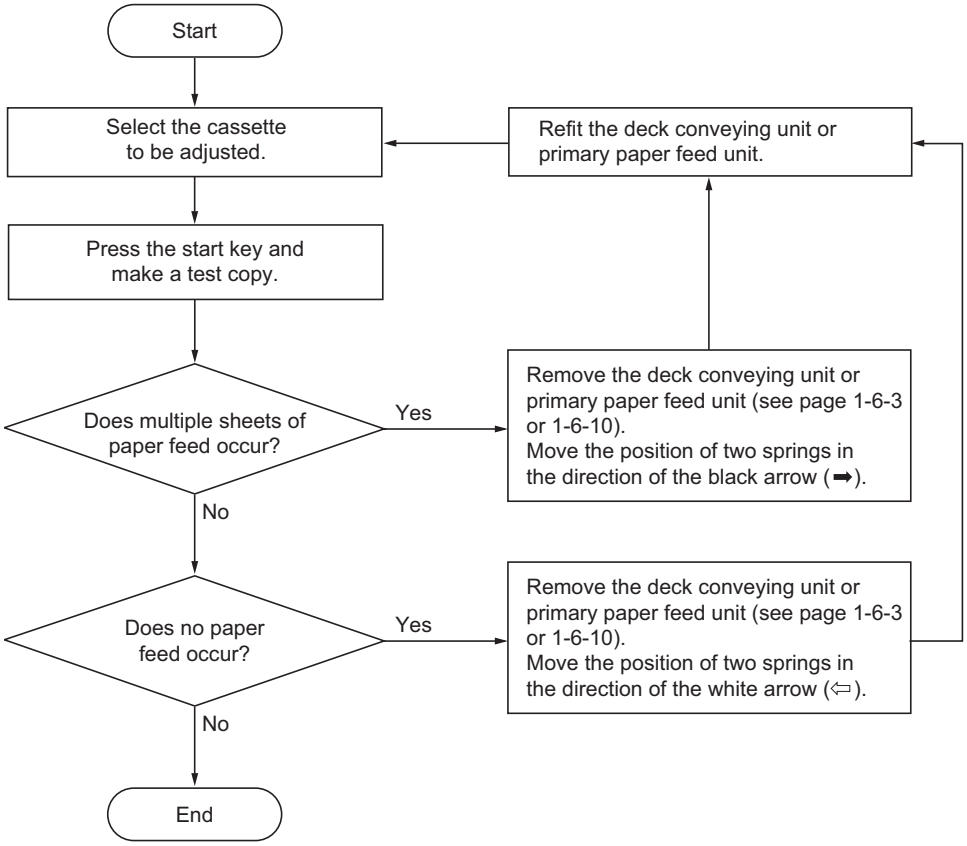


Figure 1-6-29

(3) Pressure adjustment of separation pulley

Perform the following adjustment if no paper feed or multiple sheets of paper occurs for feeding from the cassette.

Procedure


Start
Select the cassette to be adjusted.
Press the start key and make a test copy.
Does multiple sheets of paper feed occur?
Yes
No
Remove the deck conveying unit or primary paper feed unit (see page 1-6-3 or 1-6-10).
Move the position of two springs in the direction of the black arrow (➡).
Does no paper feed occur?
Yes
No
Remove the deck conveying unit or primary paper feed unit (see page 1-6-3 or 1-6-10).
Move the position of two springs in the direction of the white arrow (⇦).
Refit the deck conveying unit or primary paper feed unit.
End

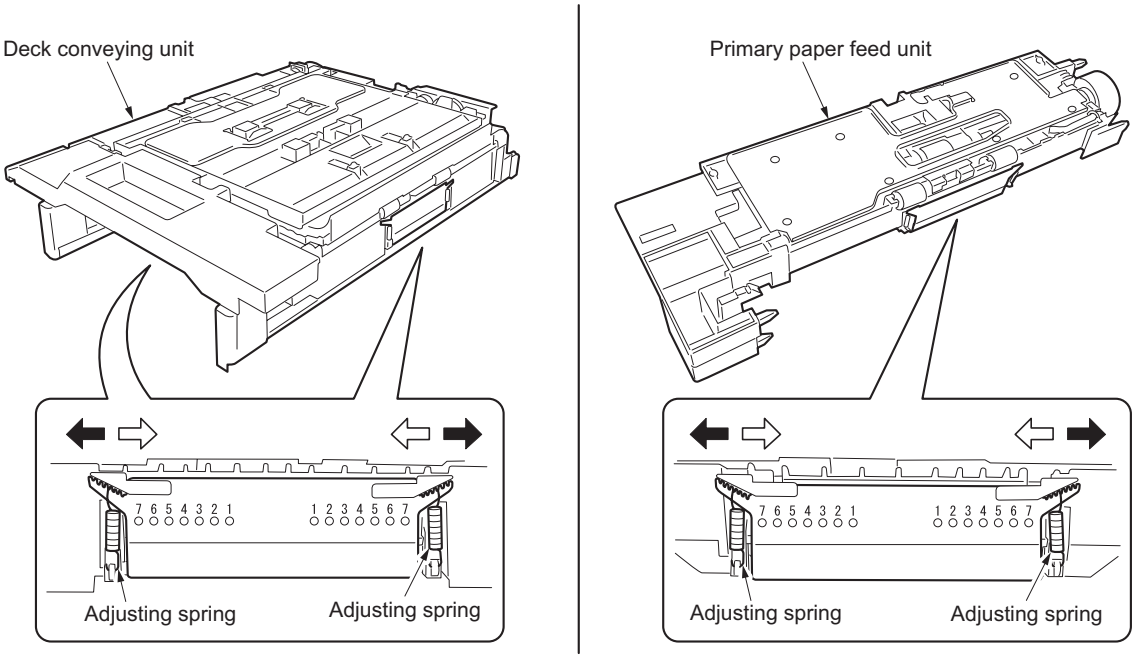

Deck conveying unit
7 6 5 4 3 2 1
1 2 3 4 5 6 7
Adjusting spring
Adjusting spring
Primary paper feed unit
7 6 5 4 3 2 1
1 2 3 4 5 6 7
Adjusting spring
Adjusting spring

Figure 1-6-30

(4) Adjusting the center line for cassette 1 or 2

Perform the following adjustment if there is a regular error between the center lines of the copy image and original when the paper is fed from cassette 1 or 2.

Caution
After performing the following adjustment, adjust the position of the damper (see page 1-6-16).

Procedure

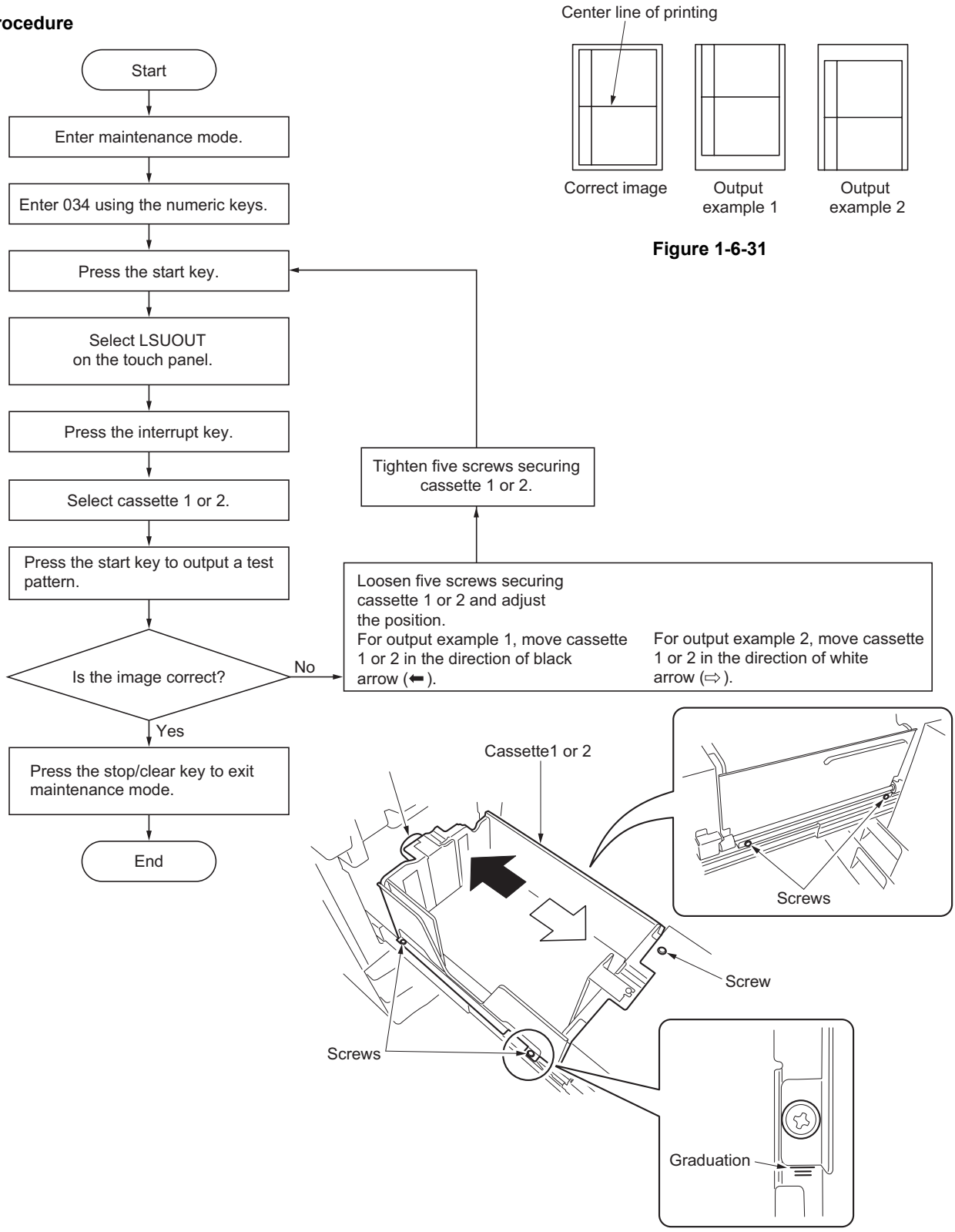

Start
Enter maintenance mode.
Enter 034 using the numeric keys.
Press the start key.
Select LSUOUT on the touch panel.
Press the interrupt key.
Select cassette 1 or 2.
Press the start key to output a test pattern.
Is the image correct?
No
Yes
Press the stop/clear key to exit maintenance mode.
End
Tighten five screws securing cassette 1 or 2.
Loosen five screws securing cassette 1 or 2 and adjust the position.
For output example 1, move cassette 1 or 2 in the direction of black arrow (⬅).
For output example 2, move cassette 1 or 2 in the direction of white arrow (⇨).
Center line of printing
Correct image
Output example 1
Output example 2
Cassette1 or 2
Screws
Screw
Screws
Graduation

Figure 1-6-31

Figure 1-6-32

Adjusting position of the damper

Procedure
When removing cassette 1 or 2 backwards;
Pull and rotate the damper clockwise for the removed levels.
When removing cassette 1 or 2 forwards;
Pull and rotate the damper counter-clockwise for the removed levels.
The damper is adjustable to 2-level in both clockwise and counter-clockwise directions.

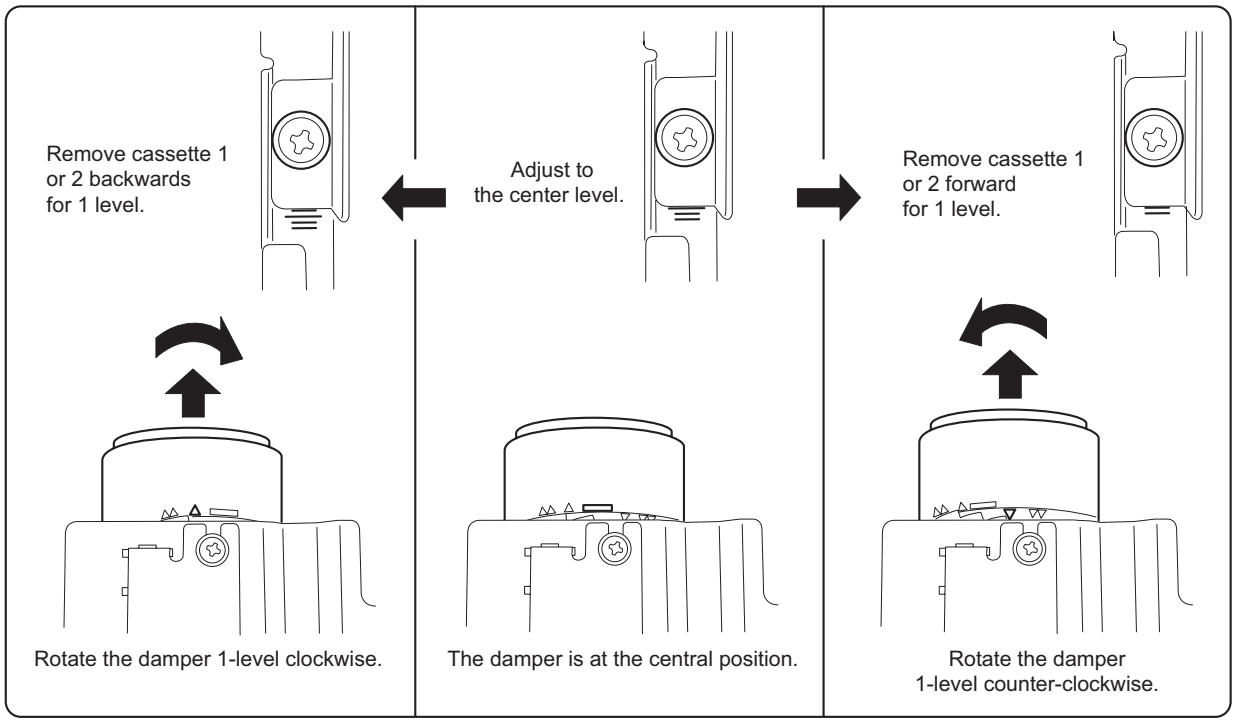


Figure 1-6-33

(5) Detaching and refitting the MP unit

Procedure

1. Remove the screw and then remove the developing fan cover.
2. Open the MP tray.

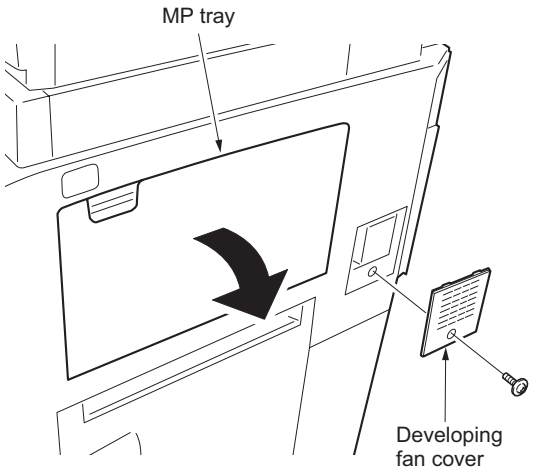


Figure 1-6-34

3. Remove the two pins and then remove the lower right rear cover.

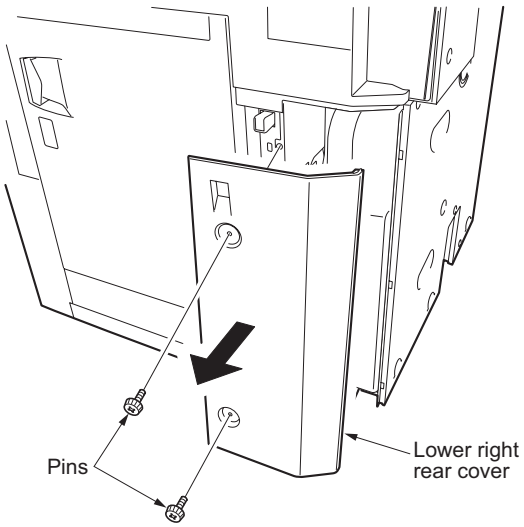


Figure 1-6-35

4. Remove the screw and then remove the middle right cover.

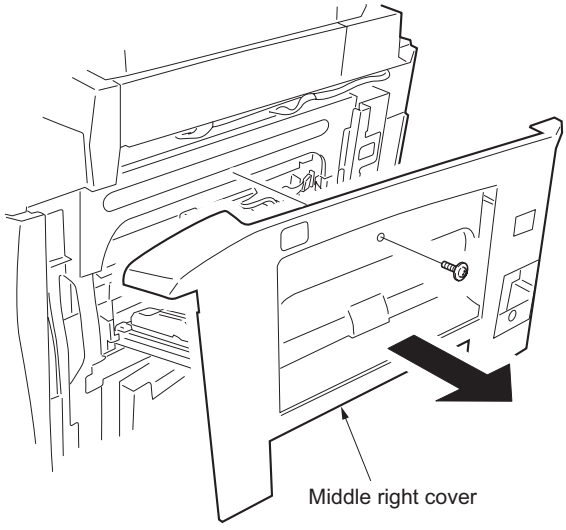


Figure 1-6-36

5. Remove the connector and then remove the MP tray.

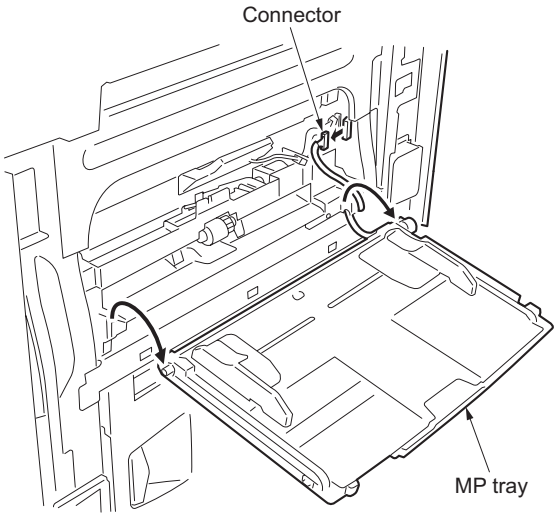


Figure 1-6-37

6. Remove the connector and two screws and then remove the MP unit.

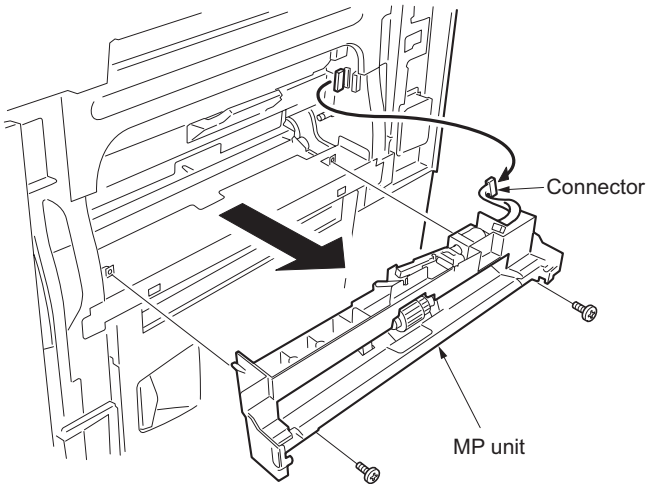


Figure 1-6-38

(6) Detaching and refitting the MP paper feed pulley, MP forwarding pulley and MP separation pulley

Follow the procedure below to clean or replace the MP paper feed pulley, MP forwarding pulley and MP separation pulley.

Procedure

1. Remove the MP unit (see page 1-6-17).
2. Remove each screw from the MP unit front and rear.
3. Release the claws of the MP unit front and rear in the direction of the arrow.
4. Remove the projections from the inserted parts, and then divide the unit into upper and lower unit.

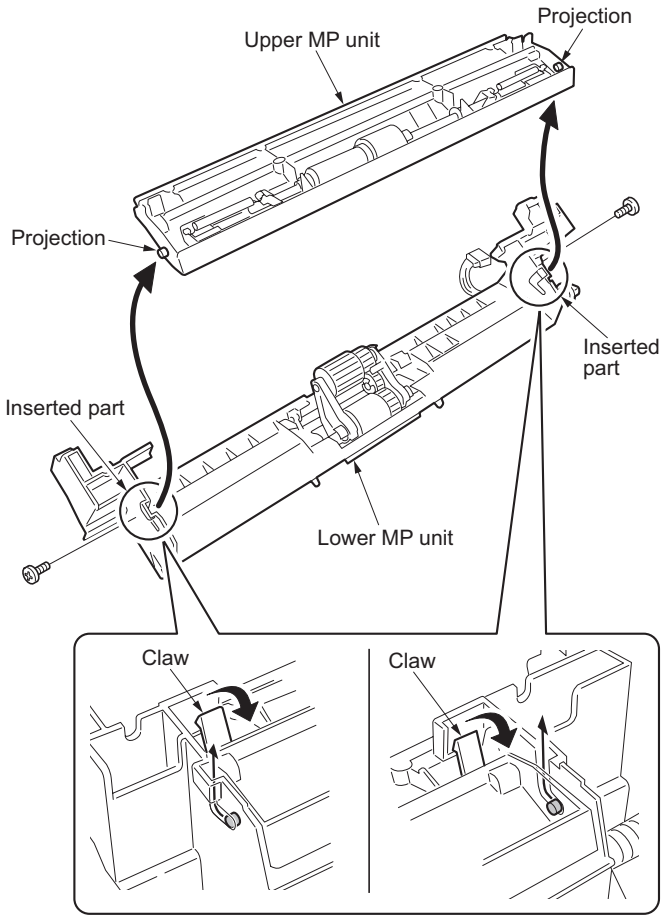


Figure 1-6-39

Detaching the MP paper feed pulley and MP forwarding pulley

5. Remove the spring and lever from the upper MP unit.

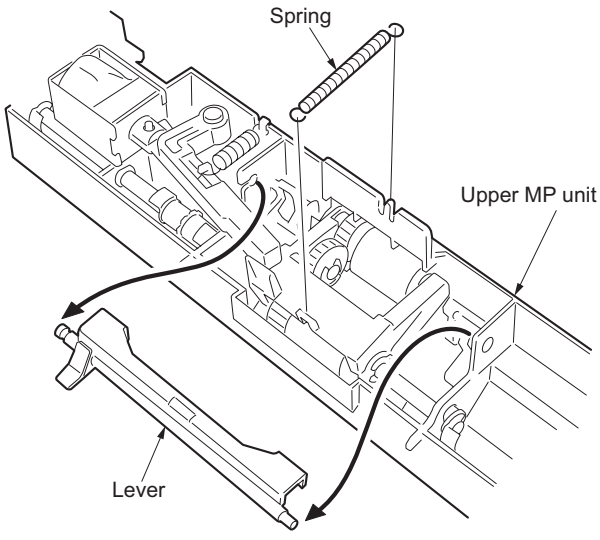


Figure 1-6-40

6. Release the MP solenoid lever in the direction of the arrow. Remove the stop ring and slide the joint in the direction of the arrow.

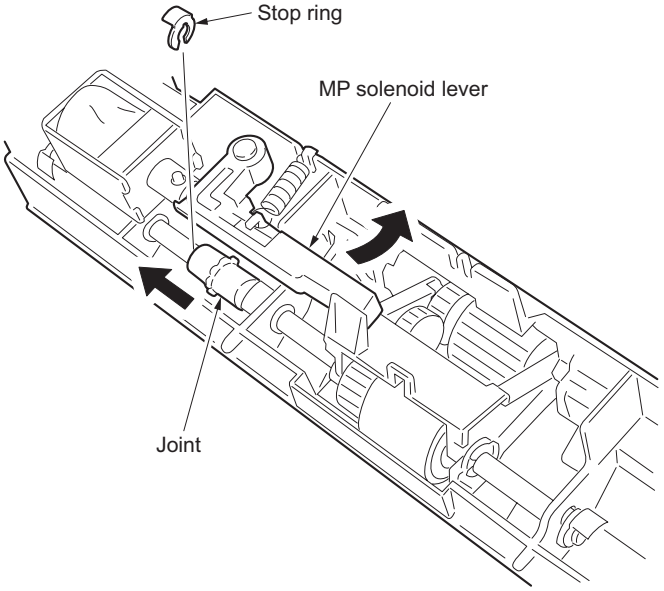


Figure 1-6-41

7. Remove two stop rings and bushes, and then remove the MP paper feed pulley unit from the upper MP unit.

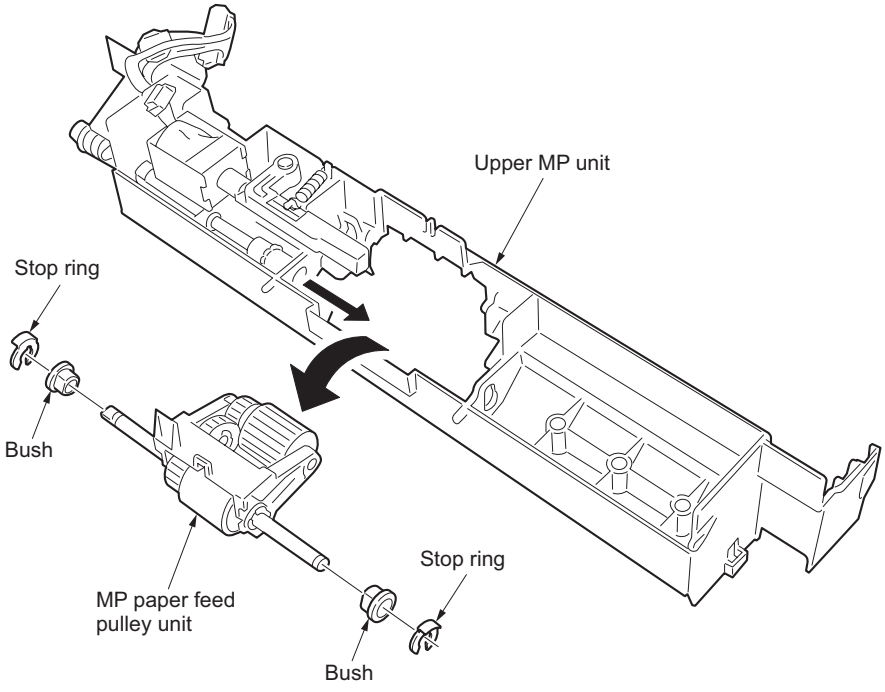


Figure 1-6-42

8. Remove the stop ring and two bushes from the MP paper feed pulley unit and pull out the MP paper feed pulley shaft.
9. Remove the MP paper feed pulley and MP paper feed pulley gear from the MP paper feed pulley unit.

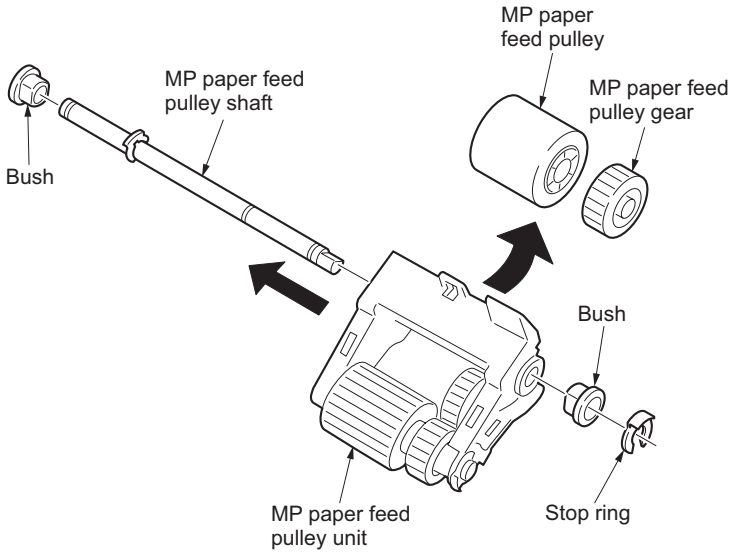


Figure 1-6-43

10. Remove the stop ring from the MP paper feed pulley unit and pull out the MP forwarding pulley shaft.
11. Remove the MP forwarding pulley from the MP paper feed pulley unit.

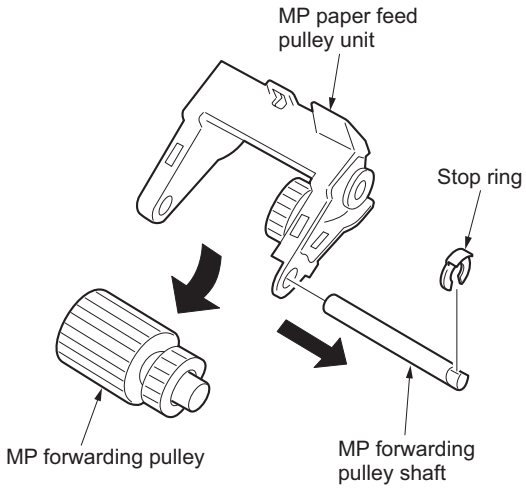


Figure 1-6-44

12. Clean or replace the MP paper feed pulley and MP forwarding pulley, and then attach the pulleys to the MP paper feed pulley unit.

* When replacing the MP paper feed pulley, make sure that the one-way clutch of both the pulley and the gear is placed toward the rear side of the machine.

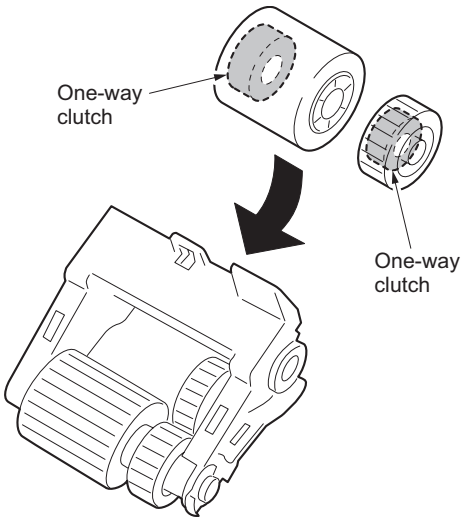


Figure 1-6-45

Removing the MP separation pulley

13. Remove two springs from the lower MP unit.
14. Remove the MP separation pulley unit from the lower MP unit.
15. Remove two stoppers, bush and stop ring from the MP separation pulley unit, and then remove the MP separation pulley.

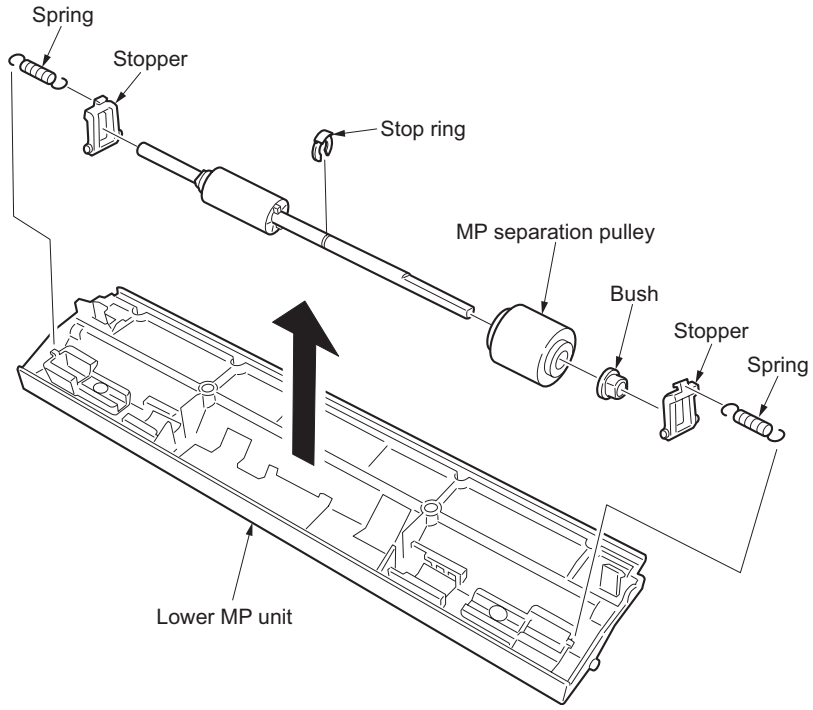


Figure 1-6-46

16. Clean or replace the MP separation pulley and then attach the pulley to the MP separation pulley unit.

* When replacing the MP separation pulley, make sure that the projection of the torque limiter fits in the separation pulley groove.

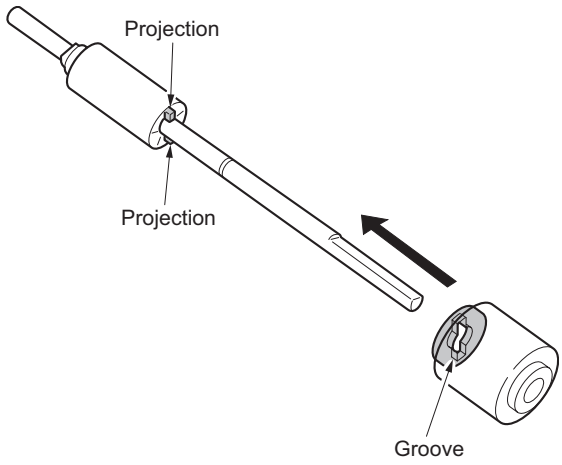


Figure 1-6-47

17. Refit he MP separation pulley unit to the lower MP unit.
    Refit the stoppers to the center grooves.

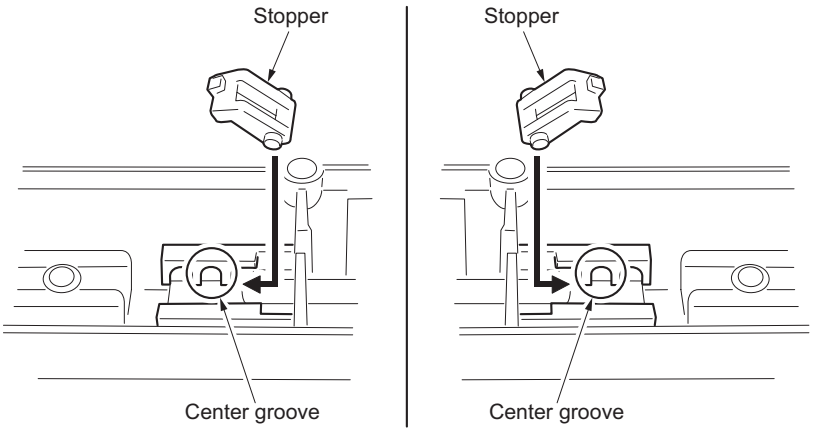


Figure 1-6-48

18. Refit the MP paper feed pulley unit to the upper MP unit.
19. Assemble the upper and lower MP units.
20. Refit the MP unit and MP tray.
    * When refitting the MP unit, refit to insert the shaft of the machine in coupling at rear side.
21. Refit the middle right cover, lower right rear cover and developing fan cover.

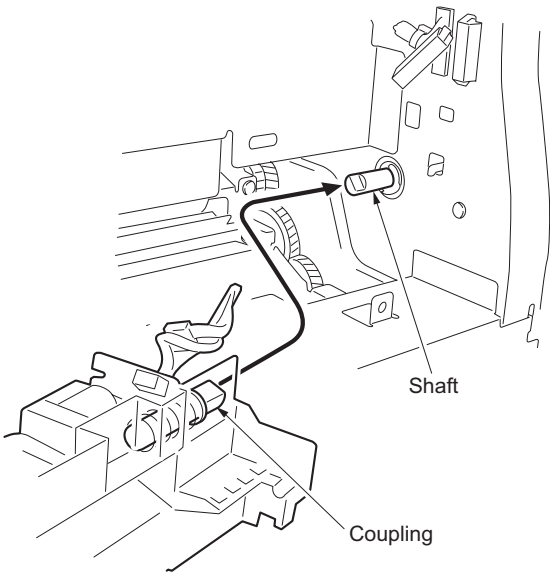
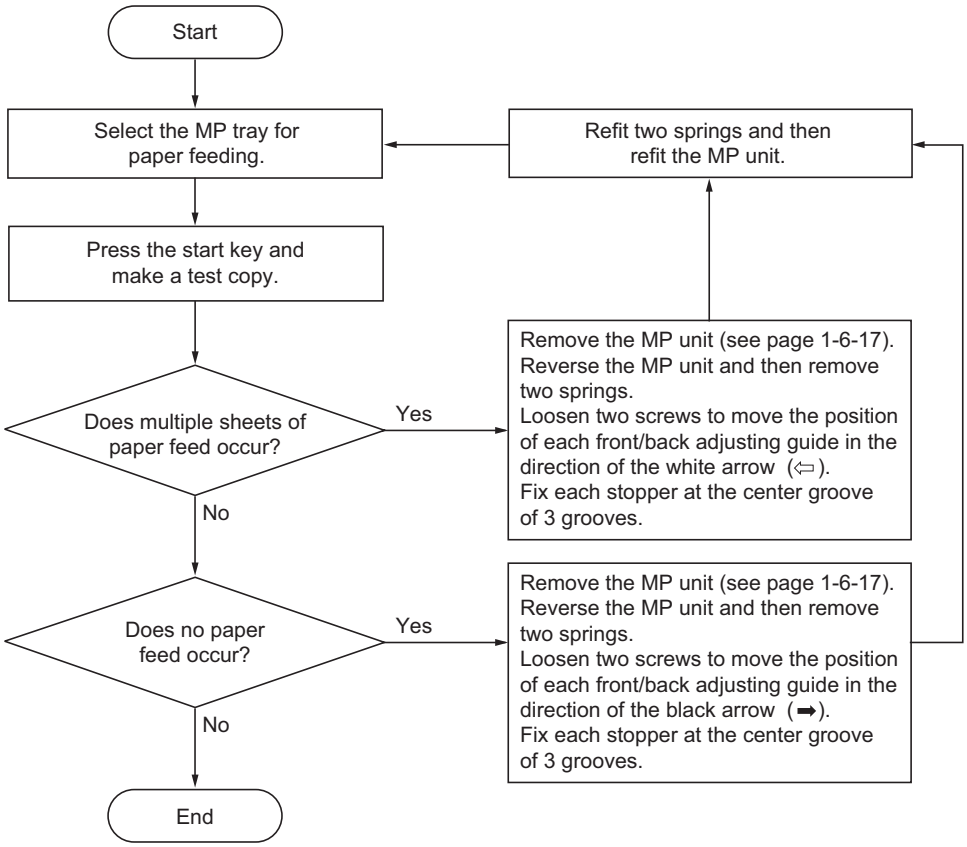


Figure 1-6-49

(7) Pressure adjustment of MP separation pulley

Perform the following adjustment if no paper feed or multiple sheets of paper occurs for feeding from the MP tray.

Procedure


Start
Select the MP tray for paper feeding.
Press the start key and make a test copy.
Does multiple sheets of paper feed occur?
Yes
No
Does no paper feed occur?
Yes
No
End
Remove the MP unit (see page 1-6-17).
Reverse the MP unit and then remove two springs.
Loosen two screws to move the position of each front/back adjusting guide in the direction of the white arrow (⇦).
Fix each stopper at the center groove of 3 grooves.
Remove the MP unit (see page 1-6-17).
Reverse the MP unit and then remove two springs.
Loosen two screws to move the position of each front/back adjusting guide in the direction of the black arrow (➡).
Fix each stopper at the center groove of 3 grooves.
Refit two springs and then refit the MP unit.

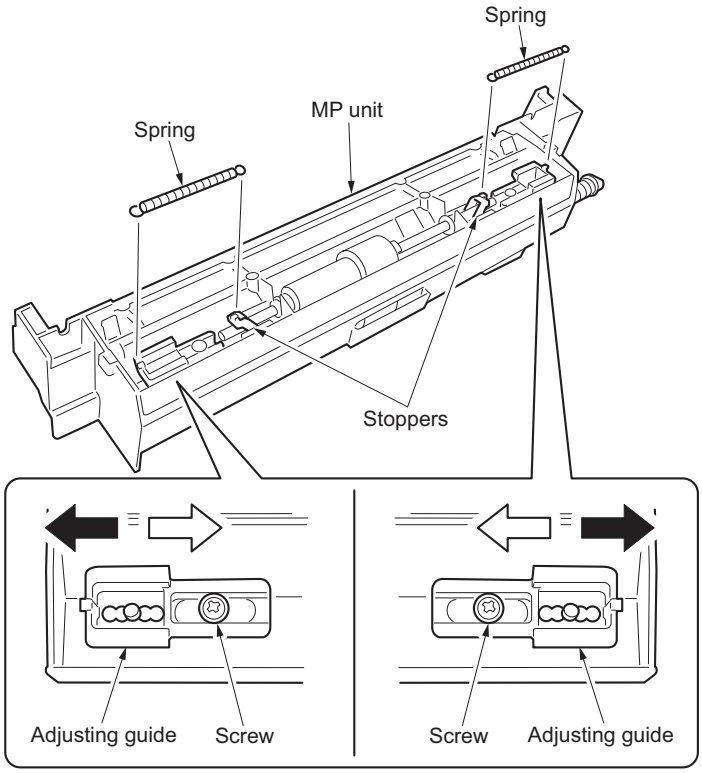


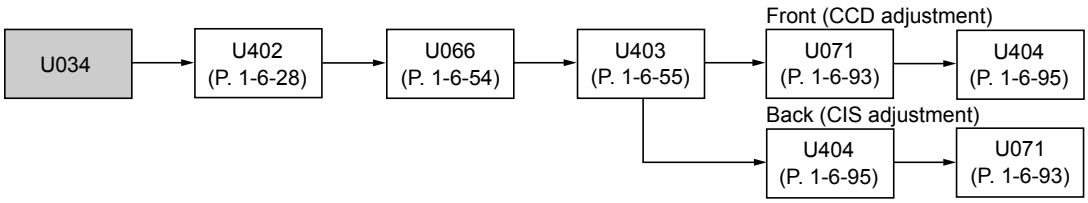
Figure 1-6-50

(8) Adjustment after roller and motor replacement

Perform the following adjustment after refitting rollers and motors.

(8-1) Adjusting the leading edge registration of image printing

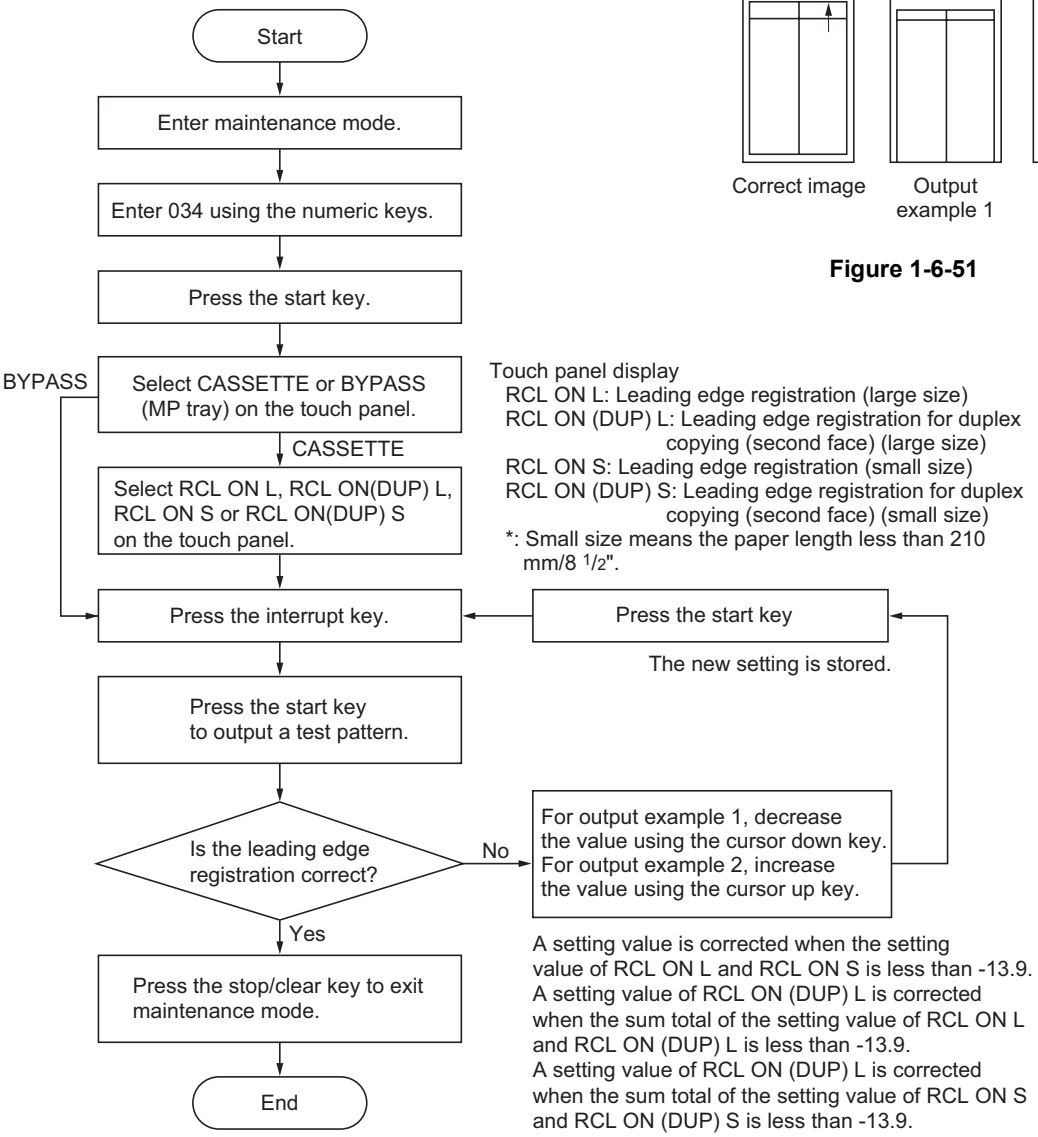
Make the following adjustment if there is a regular error between the leading edges of the copy image and original.



<Caution>

Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

<Procedure>


Start
Enter maintenance mode.
Enter 034 using the numeric keys.
Press the start key.
BYPASS
Select CASSETTE or BYPASS (MP tray) on the touch panel.
CASSETTE
Select RCL ON L, RCL ON(DUP) L, RCL ON S or RCL ON(DUP) S on the touch panel.
Touch panel display
RCL ON L: Leading edge registration (large size)
RCL ON (DUP) L: Leading edge registration for duplex copying (second face) (large size)
RCL ON S: Leading edge registration (small size)
RCL ON (DUP) S: Leading edge registration for duplex copying (second face) (small size)
*: Small size means the paper length less than 210 mm/8 1/2".
Press the interrupt key.
Press the start key
The new setting is stored.
Press the start key to output a test pattern.
Is the leading edge registration correct?
No
For output example 1, decrease the value using the cursor down key.
For output example 2, increase the value using the cursor up key.
Yes
Press the stop/clear key to exit maintenance mode.
End
A setting value is corrected when the setting value of RCL ON L and RCL ON S is less than -13.9.
A setting value of RCL ON (DUP) L is corrected when the sum total of the setting value of RCL ON L and RCL ON (DUP) L is less than -13.9.
A setting value of RCL ON (DUP) L is corrected when the sum total of the setting value of RCL ON S and RCL ON (DUP) S is less than -13.9.
Setting range: -30.0 to +50.0 (RCL ON L)
Setting range: -30.0 to +30.0
Changing the value by 1 moves the leading edge by 0.1 mm.
Initial setting: 0

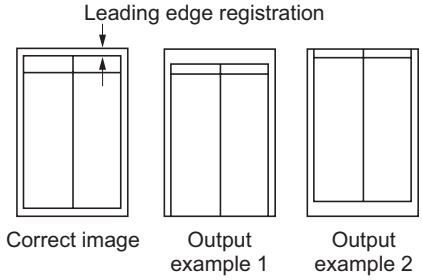
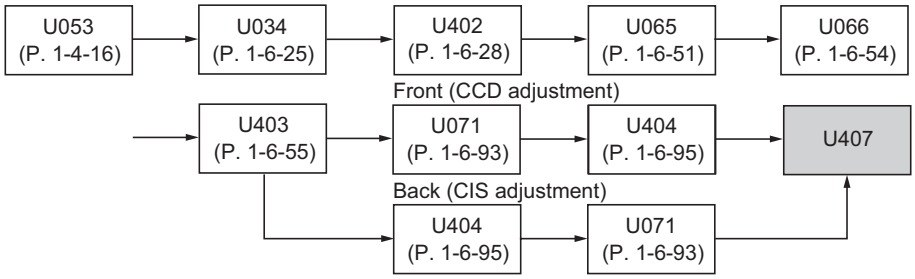


Figure 1-6-51

(8-2) Adjusting the leading edge registration for duplex switchback copying

Make the following adjustment if there is a regular error between the leading edge of the copy image on the front face and that on the reverse face during duplex switchback copying.



<Caution>

Before making the following adjustment, ensure the above adjustments have been made in maintenance mode.

<Procedure>

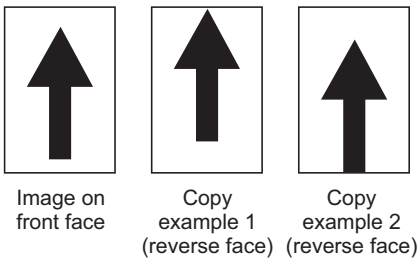
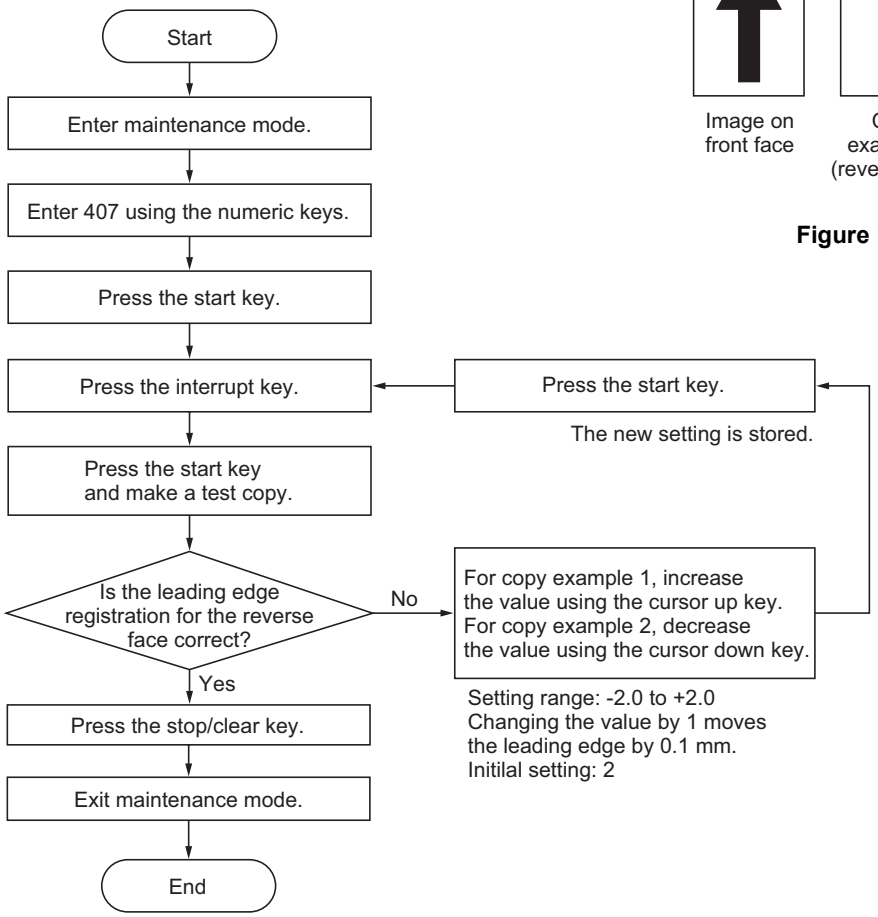
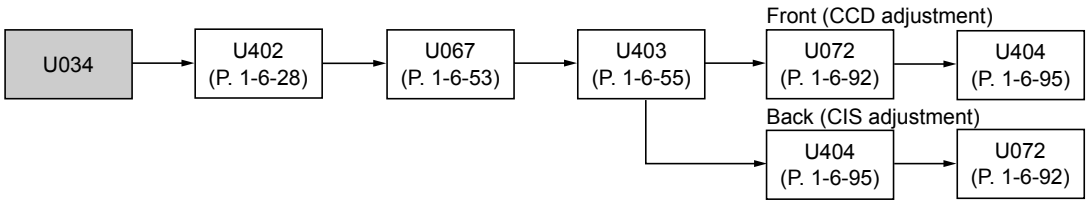


Figure 1-6-52


Start
Enter maintenance mode.
Enter 407 using the numeric keys.
Press the start key.
Press the interrupt key.
Press the start key.
The new setting is stored.
Press the start key
and make a test copy.
Is the leading edge
registration for the reverse
face correct?
No
For copy example 1, increase
the value using the cursor up key.
For copy example 2, decrease
the value using the cursor down key.
Setting range: -2.0 to +2.0
Changing the value by 1 moves
the leading edge by 0.1 mm.
Initilal setting: 2
Yes
Press the stop/clear key.
Exit maintenance mode.
End

(8-3)Adjusting the center line of image printing

Make the following adjustment if there is a regular error between the center lines of the copy image and original.



<Caution>

Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

<Procedure>

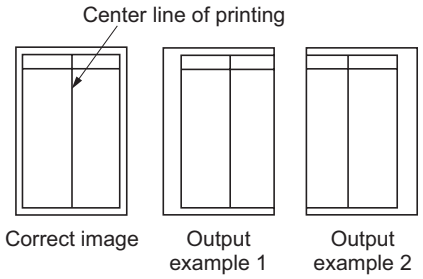
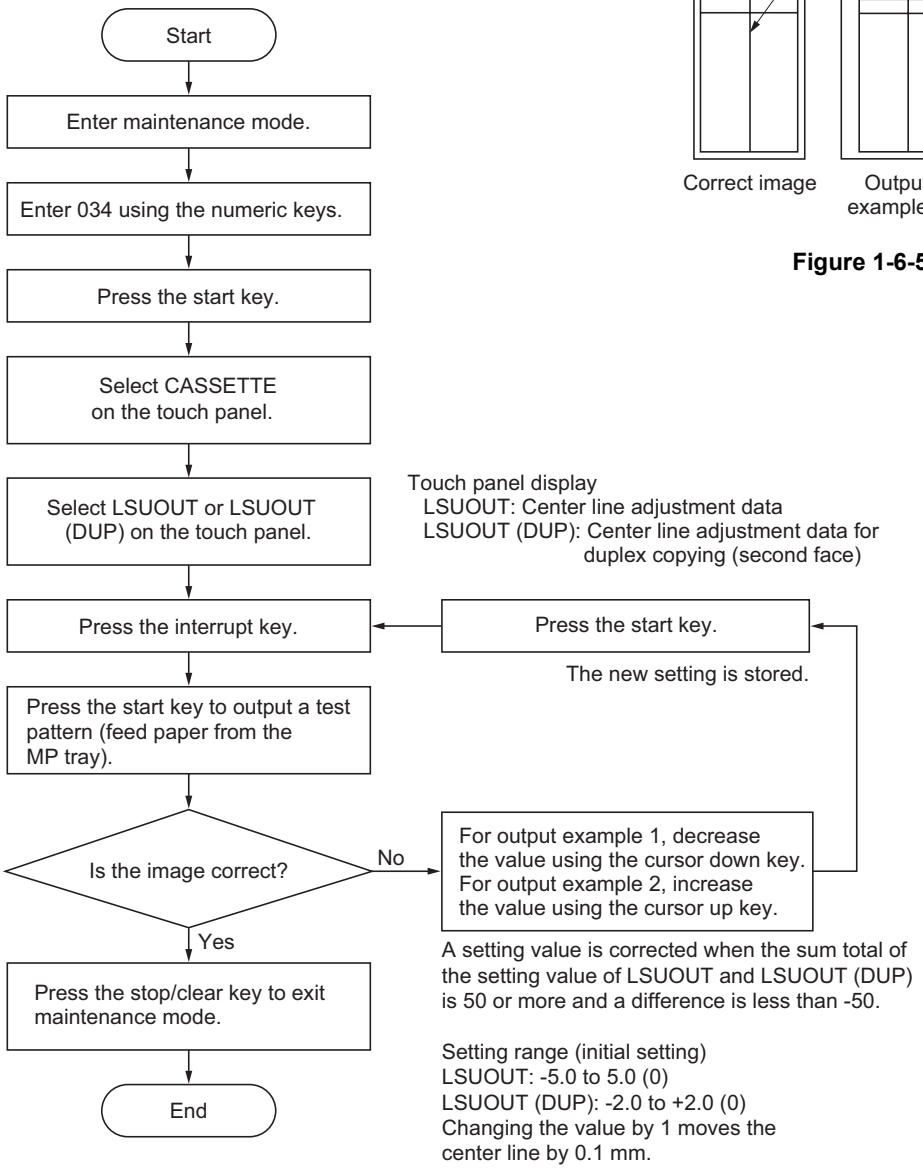
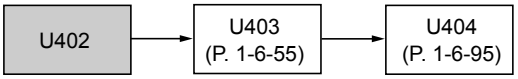


Figure 1-6-53


Start
Enter maintenance mode.
Enter 034 using the numeric keys.
Press the start key.
Select CASSETTE on the touch panel.
Select LSUOUT or LSUOUT (DUP) on the touch panel.
Touch panel display
LSUOUT: Center line adjustment data
LSUOUT (DUP): Center line adjustment data for duplex copying (second face)
Press the interrupt key.
Press the start key.
The new setting is stored.
Press the start key to output a test pattern (feed paper from the MP tray).
Is the image correct?
No
For output example 1, decrease the value using the cursor down key.
For output example 2, increase the value using the cursor up key.
A setting value is corrected when the sum total of the setting value of LSUOUT and LSUOUT (DUP) is 50 or more and a difference is less than -50.
Yes
Press the stop/clear key to exit maintenance mode.
End
Setting range (initial setting)
LSUOUT: -5.0 to 5.0 (0)
LSUOUT (DUP): -2.0 to +2.0 (0)
Changing the value by 1 moves the center line by 0.1 mm.

(8-4) Adjusting the margins for printing

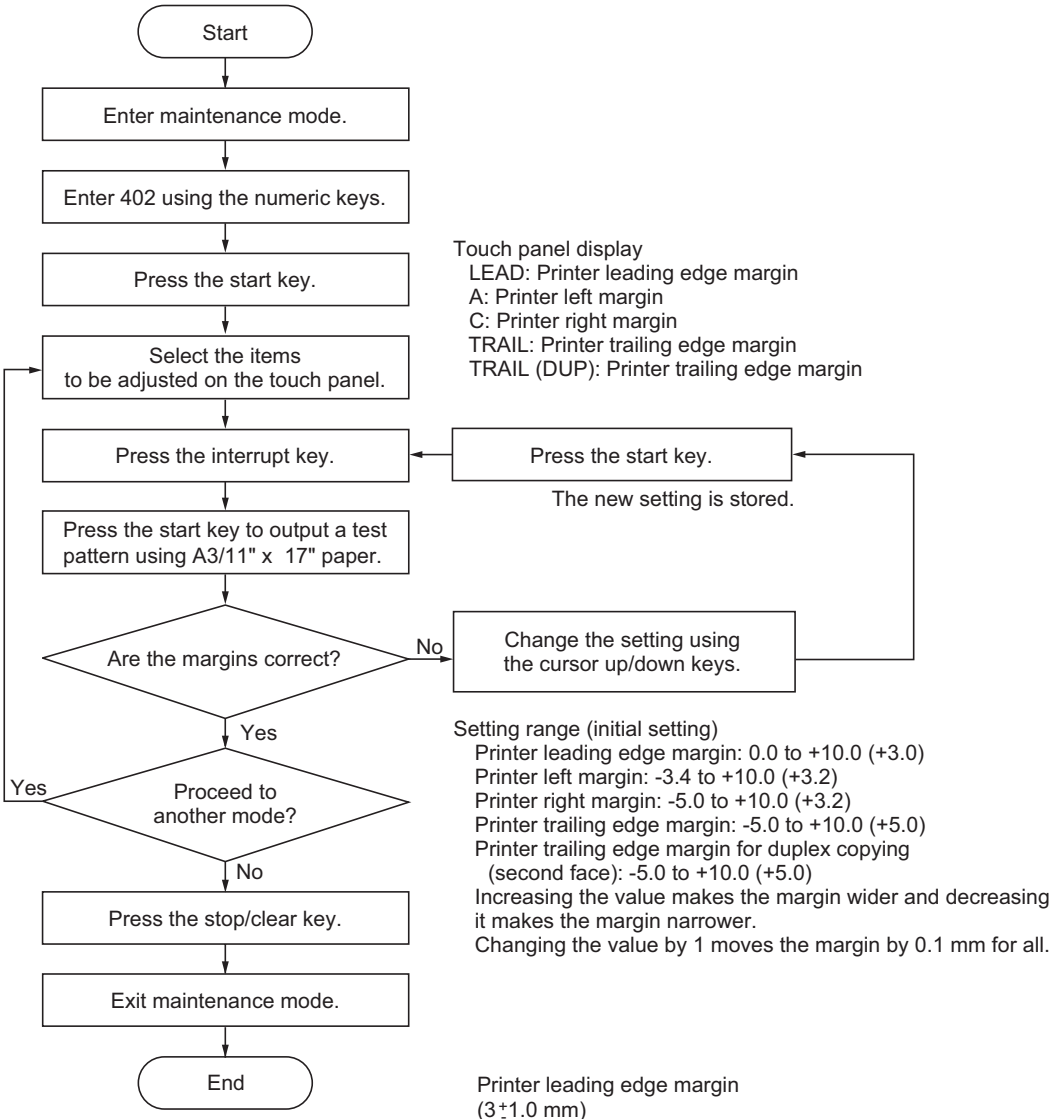
Make the following adjustment if the margins are not correct.



<Caution>

Check the copy image after the adjustment. If the margins are still incorrect, perform the above adjustments in maintenance mode.

<Procedure>


Start
Enter maintenance mode.
Enter 402 using the numeric keys.
Press the start key.
Select the items to be adjusted on the touch panel.
Press the interrupt key.
Press the start key.
The new setting is stored.
Press the start key to output a test pattern using A3/11" x 17" paper.
Are the margins correct?
No
Change the setting using the cursor up/down keys.
Yes
Proceed to another mode?
Yes
No
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
LEAD: Printer leading edge margin
A: Printer left margin
C: Printer right margin
TRAIL: Printer trailing edge margin
TRAIL (DUP): Printer trailing edge margin
Setting range (initial setting)
Printer leading edge margin: 0.0 to +10.0 (+3.0)
Printer left margin: -3.4 to +10.0 (+3.2)
Printer right margin: -5.0 to +10.0 (+3.2)
Printer trailing edge margin: -5.0 to +10.0 (+5.0)
Printer trailing edge margin for duplex copying (second face): -5.0 to +10.0 (+5.0)
Increasing the value makes the margin wider and decreasing it makes the margin narrower.
Changing the value by 1 moves the margin by 0.1 mm for all.

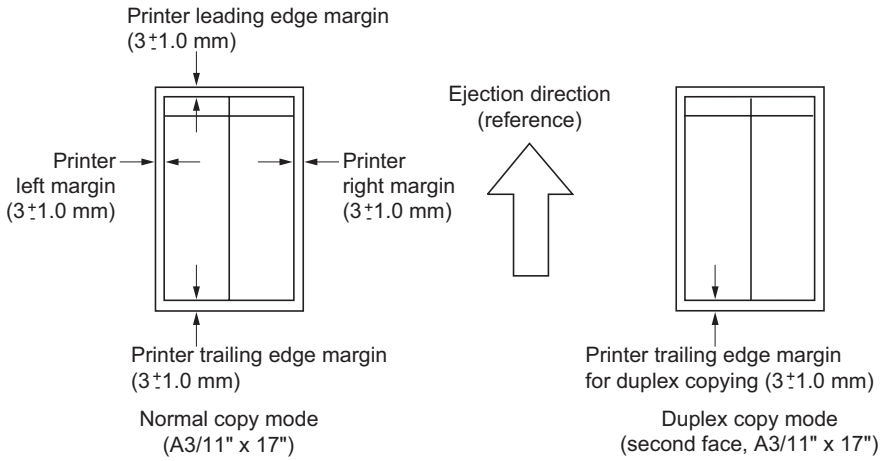

Printer leading edge margin (3±1.0 mm)
Printer left margin (3±1.0 mm)
Printer right margin (3±1.0 mm)
Ejection direction (reference)
Printer trailing edge margin (3±1.0 mm)
Normal copy mode (A3/11" x 17")
Printer trailing edge margin for duplex copying (3±1.0 mm)
Duplex copy mode (second face, A3/11" x 17")

Figure 1-6-54

(8-5) Adjusting the amount of slack in the paper

Make the following adjustment if the leading edge of the copy image is missing or varies randomly, or if the copy paper is Z-folded.

<Procedure>

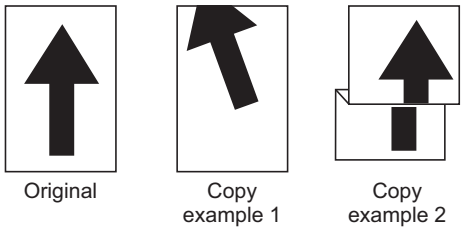
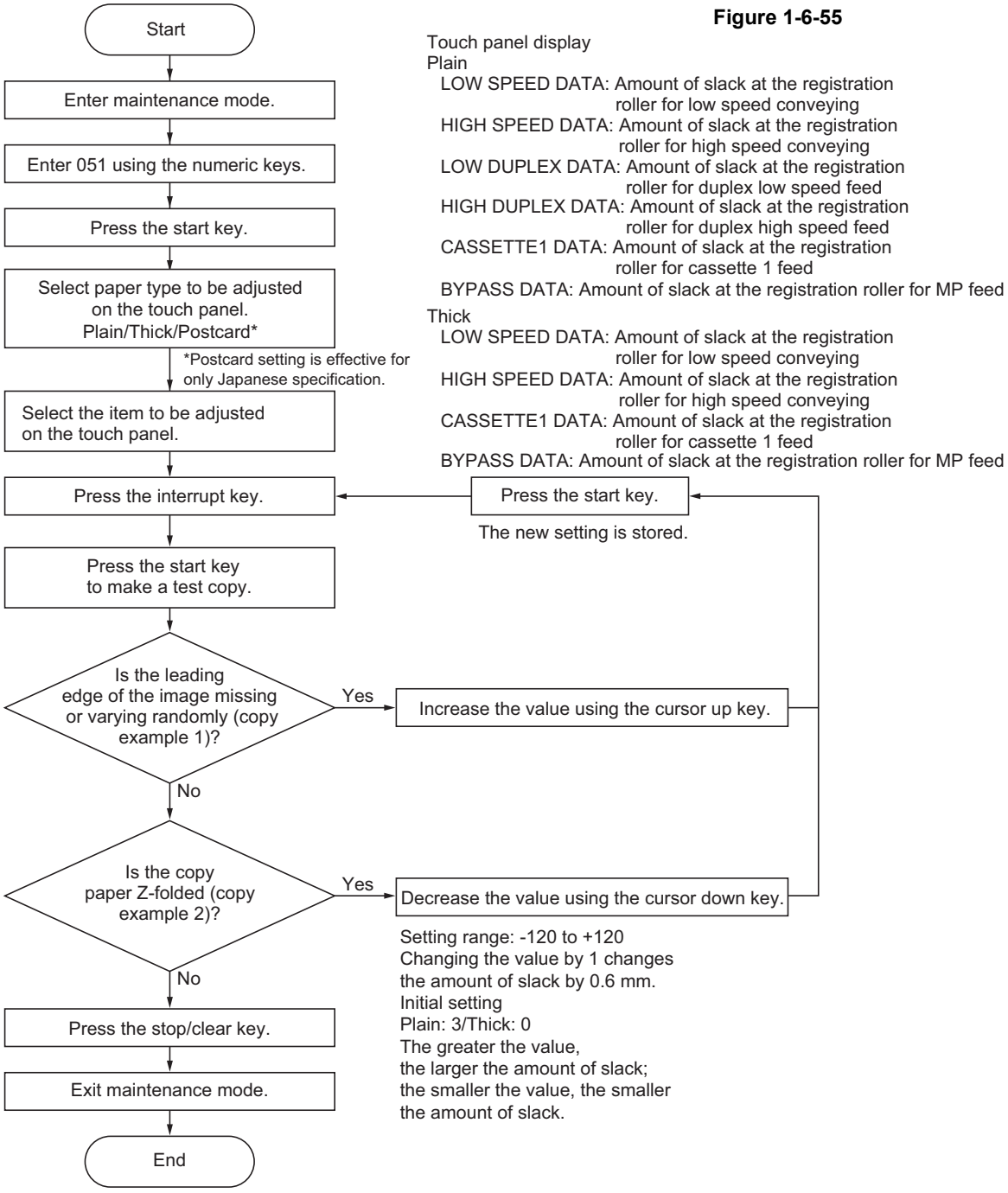


Figure 1-6-55


Start
Enter maintenance mode.
Enter 051 using the numeric keys.
Press the start key.
Select paper type to be adjusted on the touch panel.
Plain/Thick/Postcard*
*Postcard setting is effective for only Japanese specification.
Select the item to be adjusted on the touch panel.
Press the interrupt key.
Press the start key.
Press the start key to make a test copy.
Is the leading edge of the image missing or varying randomly (copy example 1)?
Yes
Increase the value using the cursor up key.
No
Is the copy paper Z-folded (copy example 2)?
Yes
Decrease the value using the cursor down key.
No
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
Plain
LOW SPEED DATA: Amount of slack at the registration roller for low speed conveying
HIGH SPEED DATA: Amount of slack at the registration roller for high speed conveying
LOW DUPLEX DATA: Amount of slack at the registration roller for duplex low speed feed
HIGH DUPLEX DATA: Amount of slack at the registration roller for duplex high speed feed
CASSETTE1 DATA: Amount of slack at the registration roller for cassette 1 feed
BYPASS DATA: Amount of slack at the registration roller for MP feed
Thick
LOW SPEED DATA: Amount of slack at the registration roller for low speed conveying
HIGH SPEED DATA: Amount of slack at the registration roller for high speed conveying
CASSETTE1 DATA: Amount of slack at the registration roller for cassette 1 feed
BYPASS DATA: Amount of slack at the registration roller for MP feed
The new setting is stored.
Setting range: -120 to +120
Changing the value by 1 changes the amount of slack by 0.6 mm.
Initial setting
Plain: 3/Thick: 0
The greater the value, the larger the amount of slack; the smaller the value, the smaller the amount of slack.

(8-6) Adjusting the amount of slack in the paper at the vertical conveying

Make the following adjustment if the leading edge of the copy image is missing or varies randomly, or if the copy paper is Z-folded.

<Procedure>

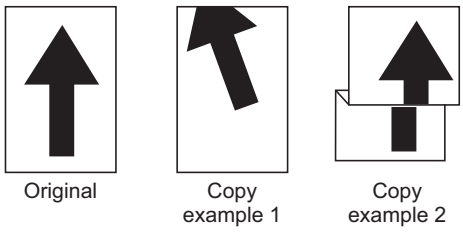
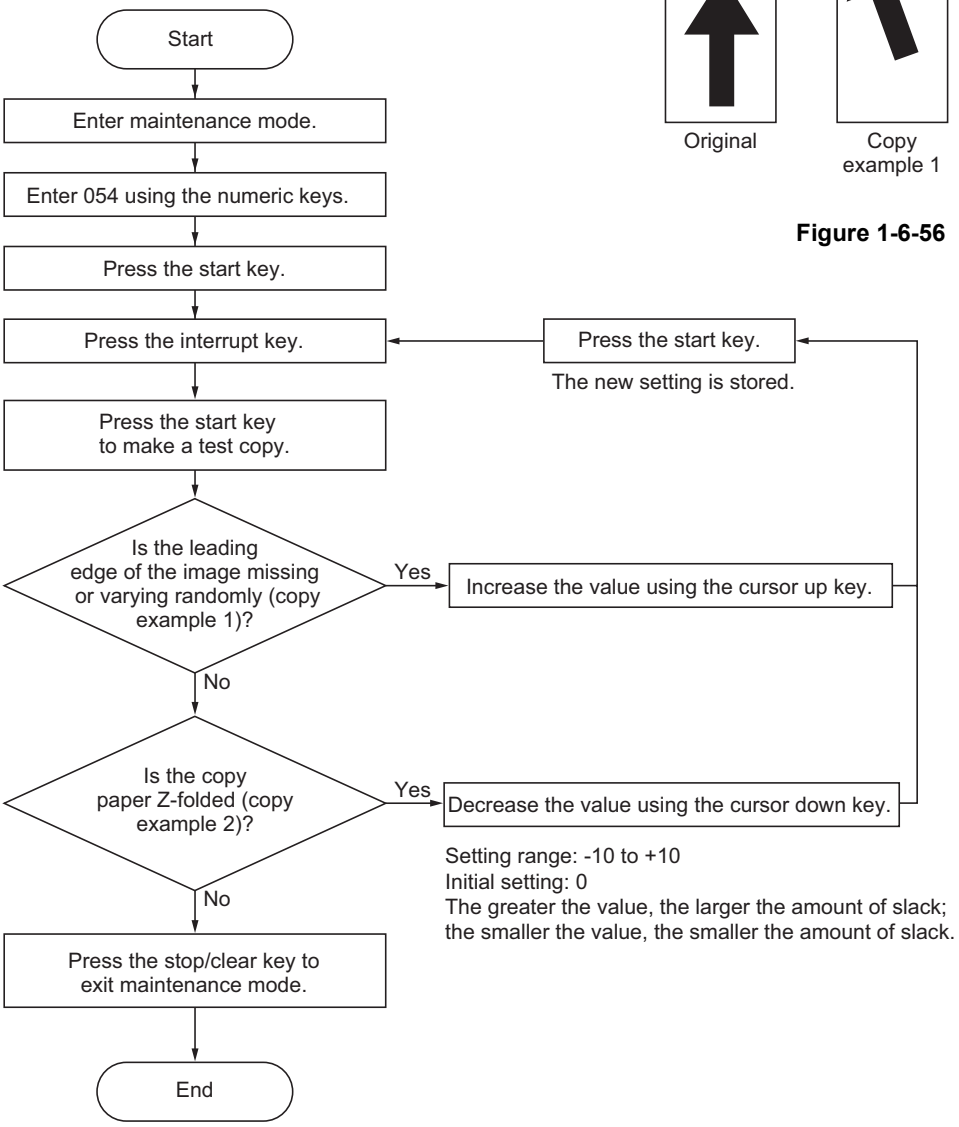


Figure 1-6-56


Start
Enter maintenance mode.
Enter 054 using the numeric keys.
Press the start key.
Press the interrupt key.
Press the start key.
The new setting is stored.
Press the start key to make a test copy.
Is the leading edge of the image missing or varying randomly (copy example 1)?
Yes
Increase the value using the cursor up key.
No
Is the copy paper Z-folded (copy example 2)?
Yes
Decrease the value using the cursor down key.
No
Press the stop/clear key to exit maintenance mode.
End

Setting range: -10 to +10
Initial setting: 0
The greater the value, the larger the amount of slack;
the smaller the value, the smaller the amount of slack.

1-6-3 Main charging section

(1) Detaching and refitting the main charger unit

Procedure

1. Open front cover and turn the lever A2 to the left.
2. Remove the toner container.
3. Remove two screws and then pull out the image formation unit.

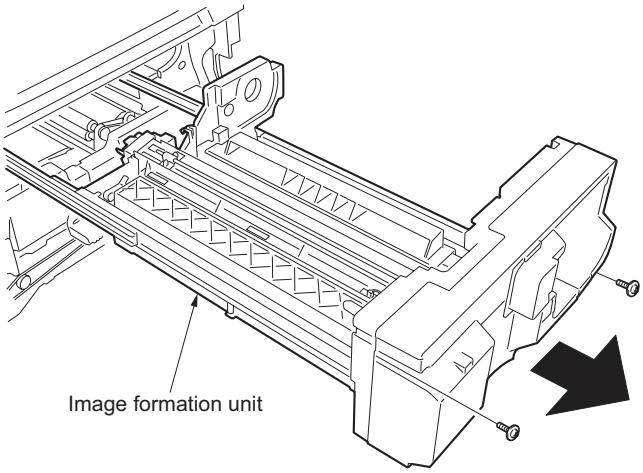


Figure 1-6-57

4. Remove two connectors and release the lock lever.
5. Raise the rear of the main charger unit and slide the unit to machine rear.
   Remove the main charger unit from the image formation unit.

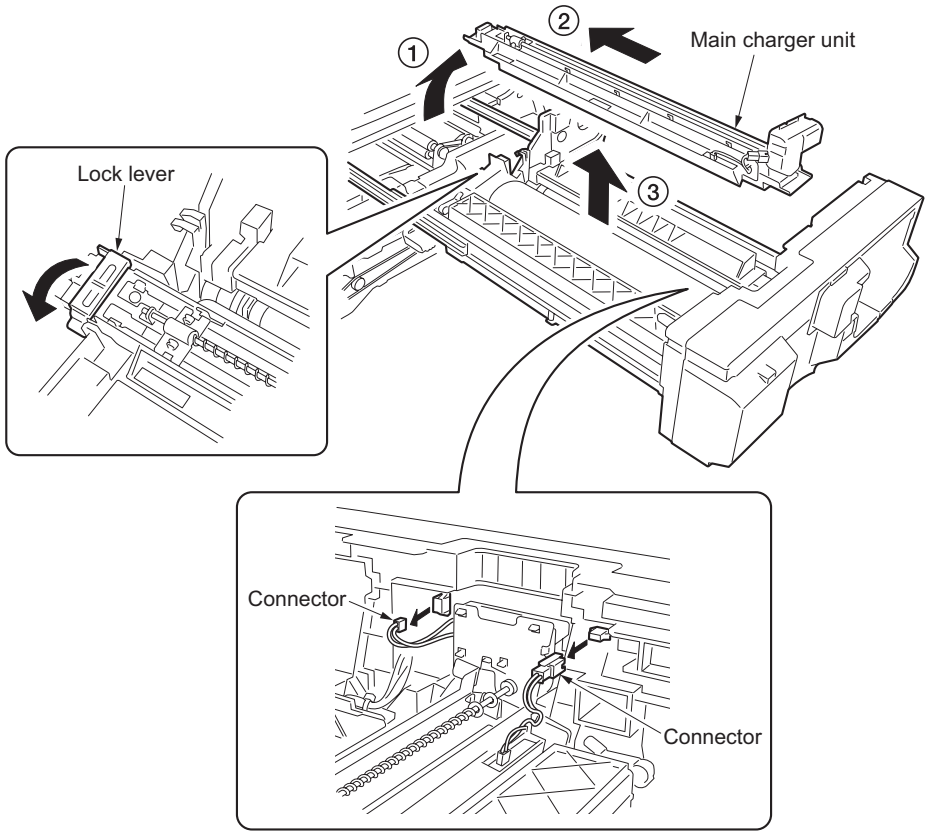


Figure 1-6-58

(2) Detaching and refitting the main charger grid

Follow the procedure below to clean or replace the main charger grid.

Procedure

1. Remove the main charger unit (see page 1-6-31).
2. Remove the screw and then remove the main charger grid.
3. Clean or replace the main charger grid and then refit the grid to its original position on the main charger unit.
4. Refit the main charger unit.

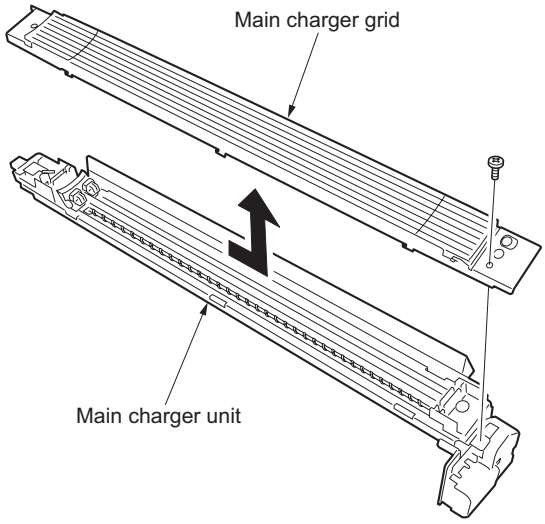


Figure 1-6-59

(3) Detaching the main charger wire cleaning pad

Follow the procedure below to replace the main charger wire cleaning pad.

Procedure

1. Remove the main charger unit (see page 1-6-31).
2. Remove the main charger grid.
3. Remove four inserted parts of the main charger cleaning pad and then remove the pad from the main charger unit.
4. Clean the main charger wire cleaning pad and then refit the pads to the main charger unit.
5. Refit the main charger grid to the main charger unit.
6. Refit the main charger unit.

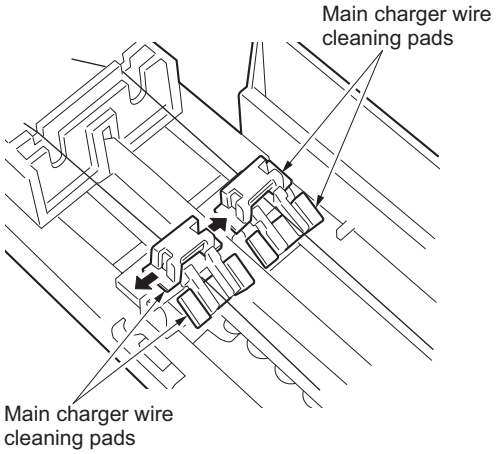


Figure 1-6-61

(4) Detaching and refitting the main charger wire

Follow the procedure below when the charger wire is broken or to be replaced.

Caution

Use the specified tungsten wire for the charger wire.
The part of the wire wrapped around the charger spring must not protrude from the charger housing.
The cut end of the charger wire must not protrude more than 2 mm from under the charger wire retainer pin.
Use a clean, undamaged tungsten charger wire.
Keep the charger wire taut by stretching the charger spring.
Clean the charger shield with wet and dry cloth when replacing the charger wire.
Do not use organic solvents such as alcohol and thinner to clean the main charger shield.

Procedure

1. Remove the main charger unit (see page 1-6-31).
2. Remove the main charger grid (see page 1-6-32).
3. Remove the main charger wire cleaning pad (see page 1-6-32).
4. Remove the charger pin and spring, and then remove the charger wire.
5. Wind the new wire at 4 and 6 turns around one end of the charger spring and trim the end of the wire.

* The length of the twists and the cut wire must be less than 2 mm.

6. Hook the other end of the charger spring onto the charger terminal of the rear housing, then pass the wire through the notches of the rear housing.
7. Hook the wire on to the pulley of the front housing and turn up.
8. Let the wire through the cut in the rear housing and above the charger pin hole.
9. Strain and fix the wire by inserting the charger pin at the position where the tip of the charger spring is within the rectangular frame on the rear housing.

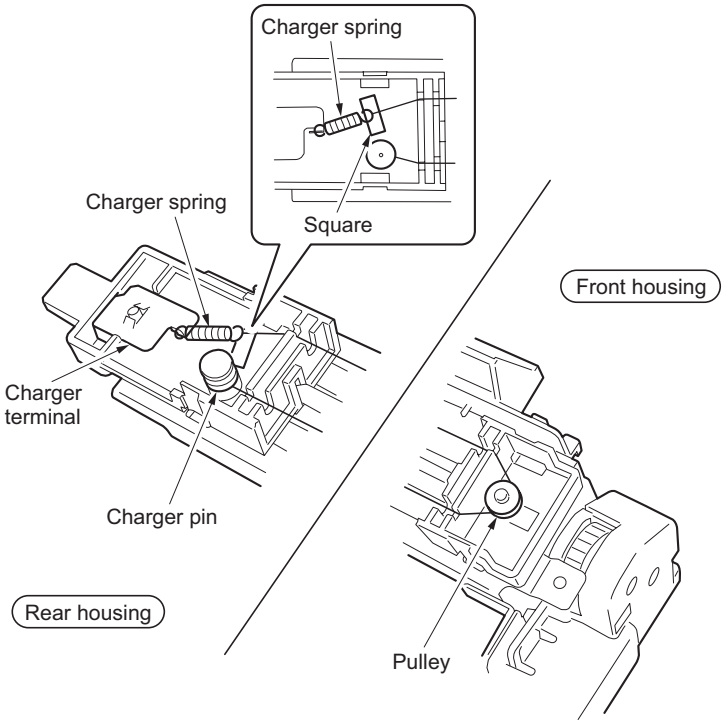


Figure 1-6-62

10. Cut off the excess wire under the charger pin so less than 2 mm protrudes.
11. Refit the main charger wire cleaning pad to the main charger unit.
12. Refit the main charger grid to the main charger unit.
13. Refit the main charger unit.

1-6-4 Optical section

(1) Detaching and refitting the exposure lamp

Follow the procedure below to replace the exposure lamp.

Fitting requires following parts
Band

Procedure

1. Remove two screws of hinge retainer at the rear side of the left hinge and then remove the retainer from DP.
2. Open DP until it becomes perpendicular.

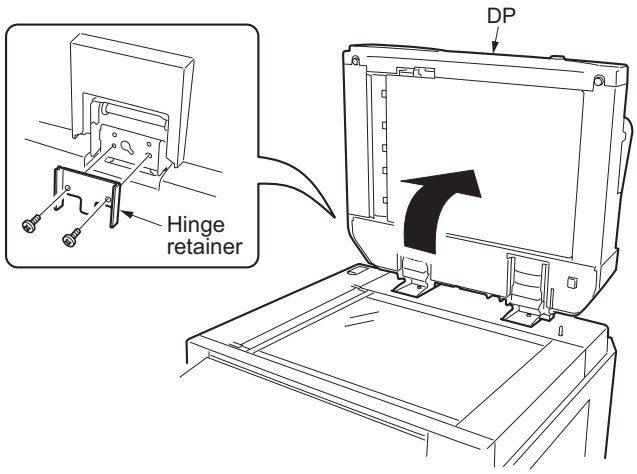


Figure 1-6-63

3. Remove two screws and then remove the upper right cover.
4. Remove the contact glass.

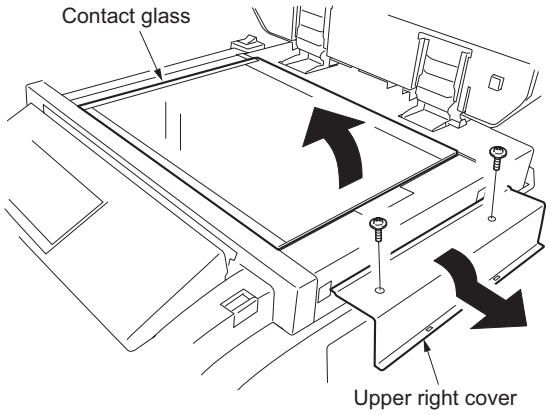


Figure 1-6-64

5. Move the mirror 1 frame to the notch of machine center.

* When moving the mirror 1 frame, do not touch the exposure lamp.

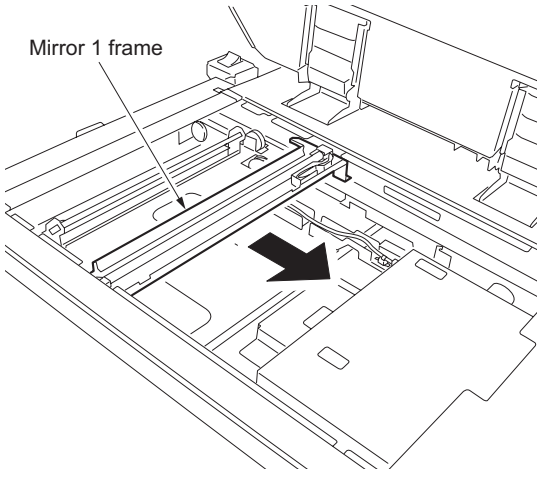


Figure 1-6-65

6. Remove the connector and band inside the scanner unit.

* Cut out the band using nippers.

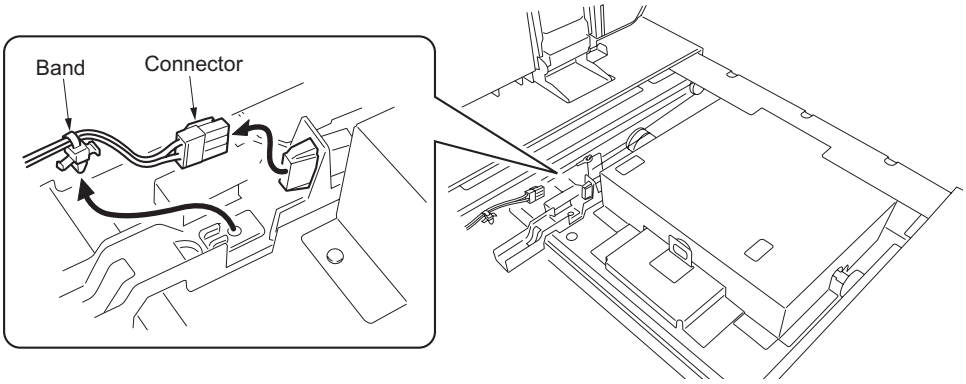


Figure 1-6-66

7. Release the inserted parts of wire guide and then remove the guide from the mirror 1 frame.
8. Remove two screws holding the exposure lamp and then remove the lamp.
9. Remove the wire guide from the wire of the exposure lamp.

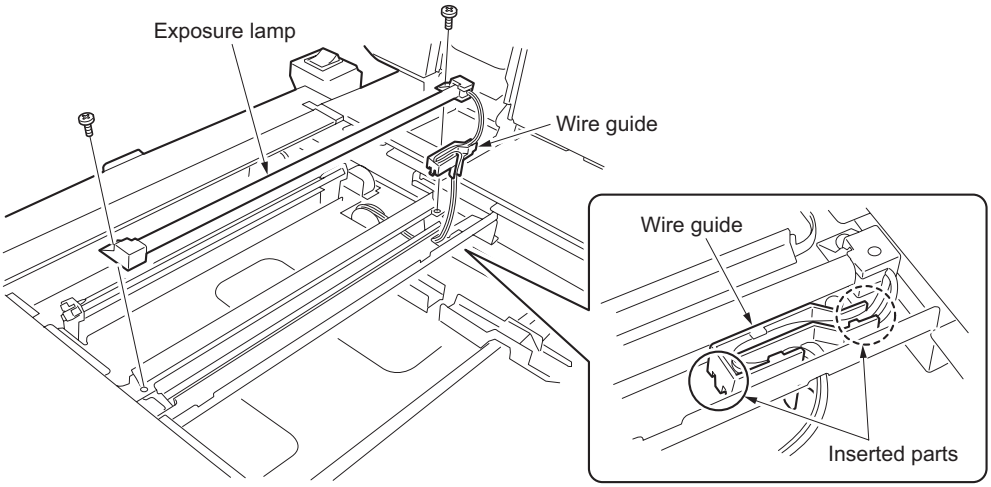


Figure 1-6-67

10. Replace the exposure lamp.
11. After letting the wire of the exposure lamp pass in the wire guide hole of the mirror 1 frame, refit the exposure lamp using two screws.

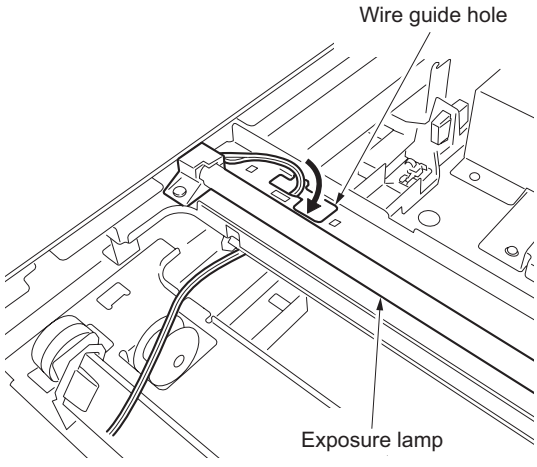


Figure 1-6-68

12. Reattach the wire guide to mirror 1 frame. Wire the electric wire from the exposure lamp along the wire guide. (1)
* Be sure that the electric wire along the wire guide is well-strained.
13. Loop the wire of the exposure lamp around the pulley of the mirror 2 frame, winding from below to above. (2)
And connect the wire to the connector. (3)
* At this time, be careful to be unable to twist the wire.

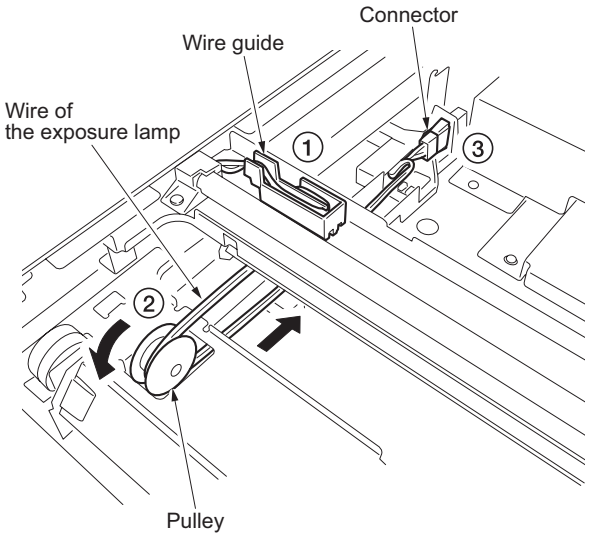


Figure 1-6-69

14. Attach the new band in order to bind with the marked position of the wire of the exposure lamp.
15. Insert the band into the guide so that the holder of the band is fixed between the rib of the guide.

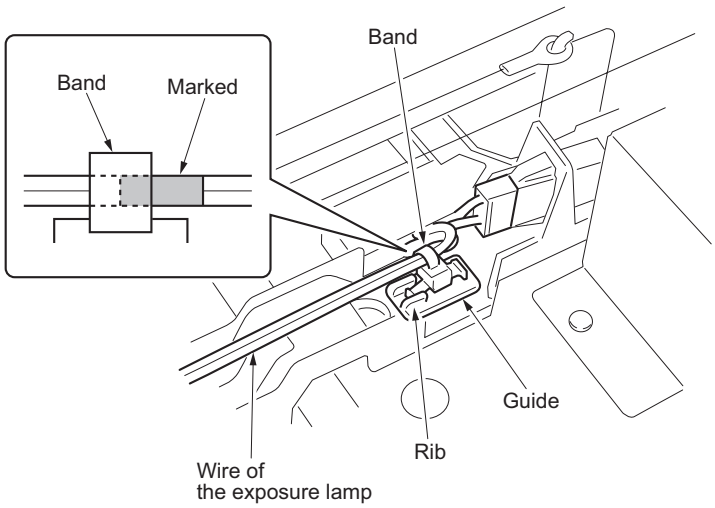


Figure 1-6-70

16. Refit the contact glass and upper right cover.
17. Refit the hinge retainer.

(2) Detaching and refitting the scanner wires

Take the following procedure when the scanner wires are broken or to be replaced.

(2-1)Detaching the scanner wires

Procedure

1. Remove three screws and slide the upper left cover to machine rear.
   Remove the upper left cover.

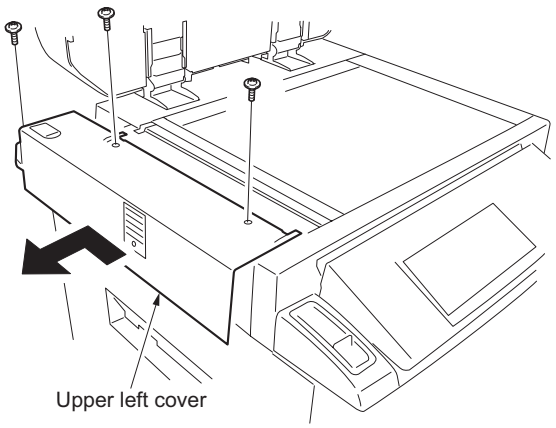


Figure 1-6-71

2. Remove the exposure lamp (see page 1-6-34).
3. Remove the DP (see page 1-6-82).
4. Remove the upper rear cover.

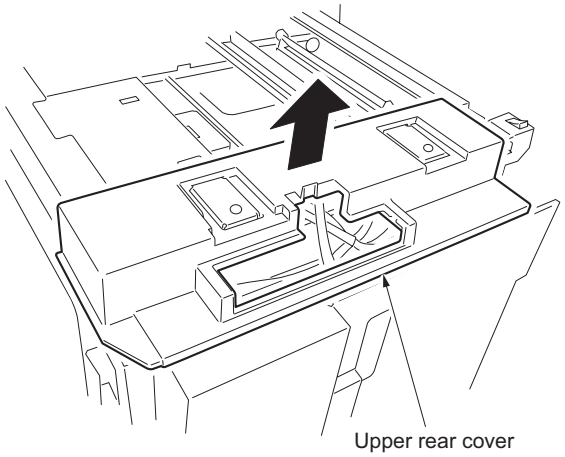


Figure 1-6-72

5. Remove the staple tray.
6. Remove each screw and then remove the operation unit right and left covers.

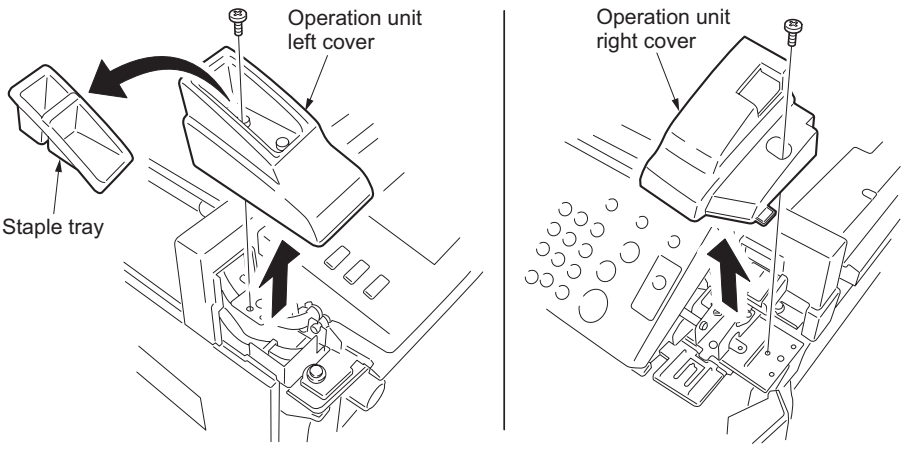


Figure 1-6-73

7. Release the inserted part of the operation unit upper cover and then remove the cover.

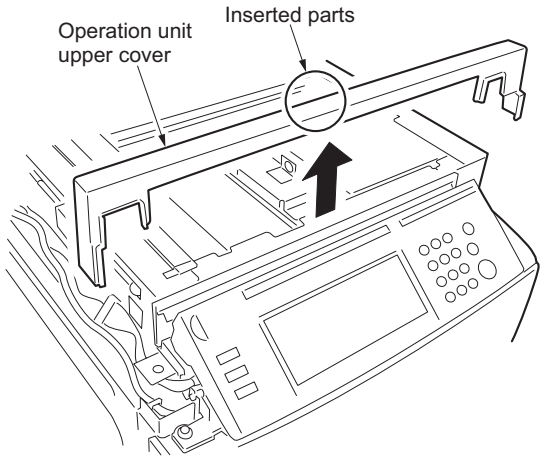


Figure 1-6-74

8. Remove each screw, and then remove the slit holder plate and slit glass.

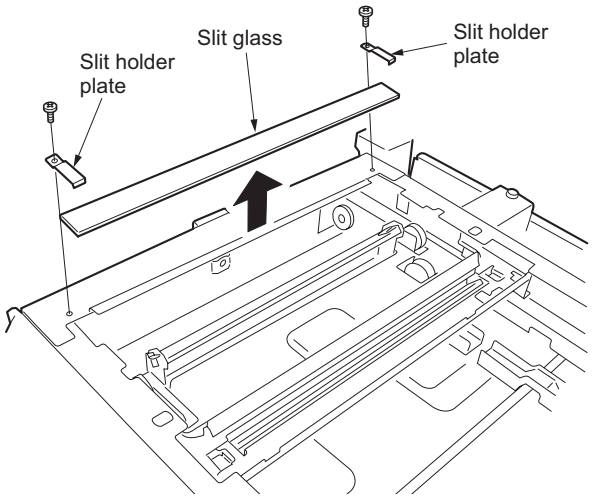


Figure 1-6-75

9. Remove each screw, and then remove the front and rear wire holder plates from the mirror 1 frame.

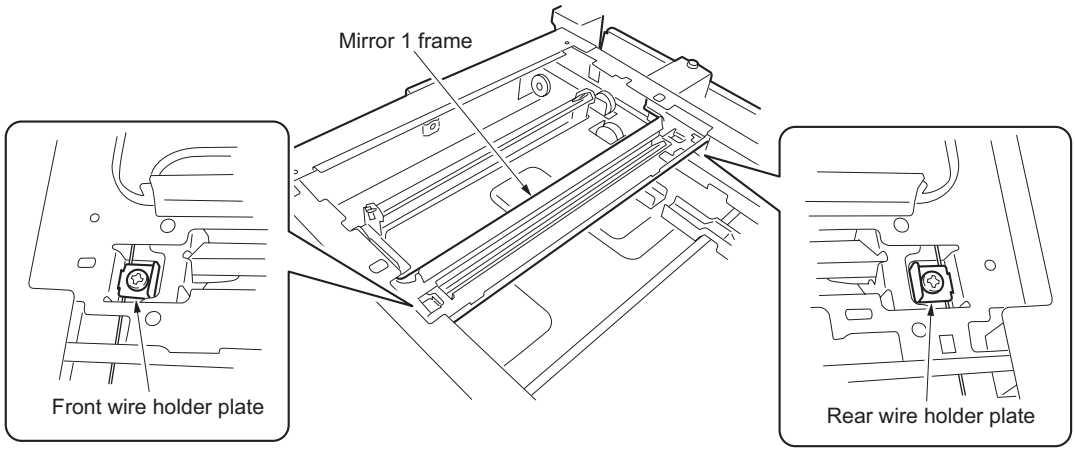


Figure 1-6-76

10. Remove the mirror 1 frame from the scanner unit, passing the lever of mirror 1 frame rear through the hole of the scanner unit rear frame.

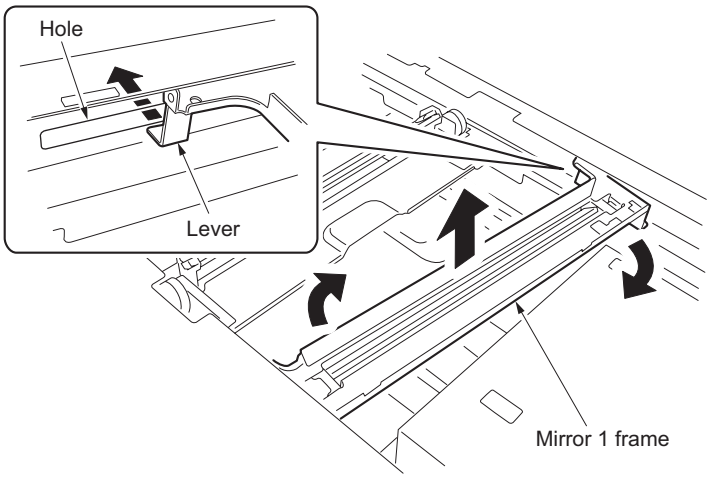


Figure 1-6-77

11. Remove the round terminals of the scanner wire in the scanner unit left side from the scanner wire spring.
12. Remove the scanner wires from the scanner unit.

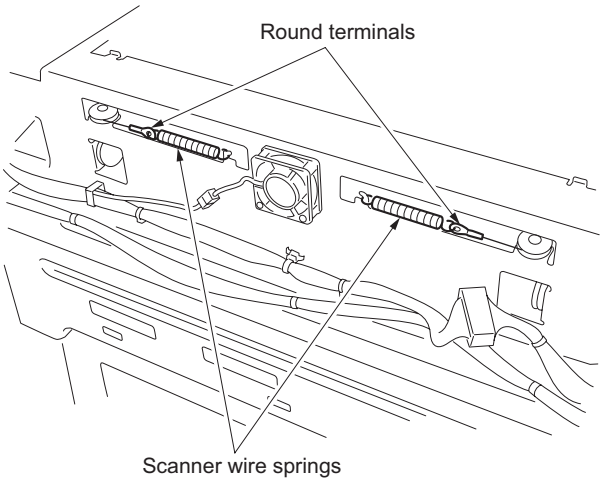


Figure 1-6-78

(2-2)Fitting the scanner wires

Caution
When fitting the wires, be sure to use those specified below.
Machine front: gray
Machine rear: black

Fitting requires the following tools
Frame securing tools
Scanner wire stoppers

Procedure
1. Move the mirror 2 frame as shown in the figure and insert two frame securing tools into the positioning holes at the front and rear of the machine center to fix the mirror 2 frame in position.
2. Fit the frame securing tools using each two screws.

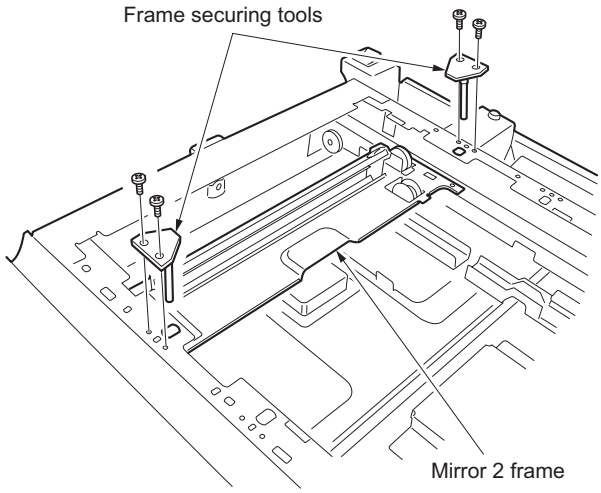


Figure 1-6-79

3. Hook the round terminals onto the catches on the inside of the scanner unit. (1)
4. Loop the scanner wires around the outer grooves in the pulleys on the mirror 2 frame, winding from below to above. (2)
5. Loop the scanner wires around the grooves in the pulleys at the scanner unit right, winding from above to below. (3)
6. Wind the scanner wires around the scanner wire drum three turns from the rear toward the hole in the drum. (4)
7. Insert the locating balls on the scanner wire into the hole in the scanner wire drum. (5)
8. Wind the scanner wires five turns from the inner toward the hole in the drum. (6)
9. Install the scanner wire stoppers to the scanner wire drum to fix the wires. (7)
10. Loop the scanner wires around the grooves in the pulley at the scanner unit left, winding from below to above. (8)
11. Loop the scanner wires around the inner grooves in the pulleys on the mirror 2 frame, winding from below to above. (9)
12. Hook the scanner wires around the scanner wire guides at the machine left. (10)
13. Hook the round terminals onto the scanner wire springs. (11)

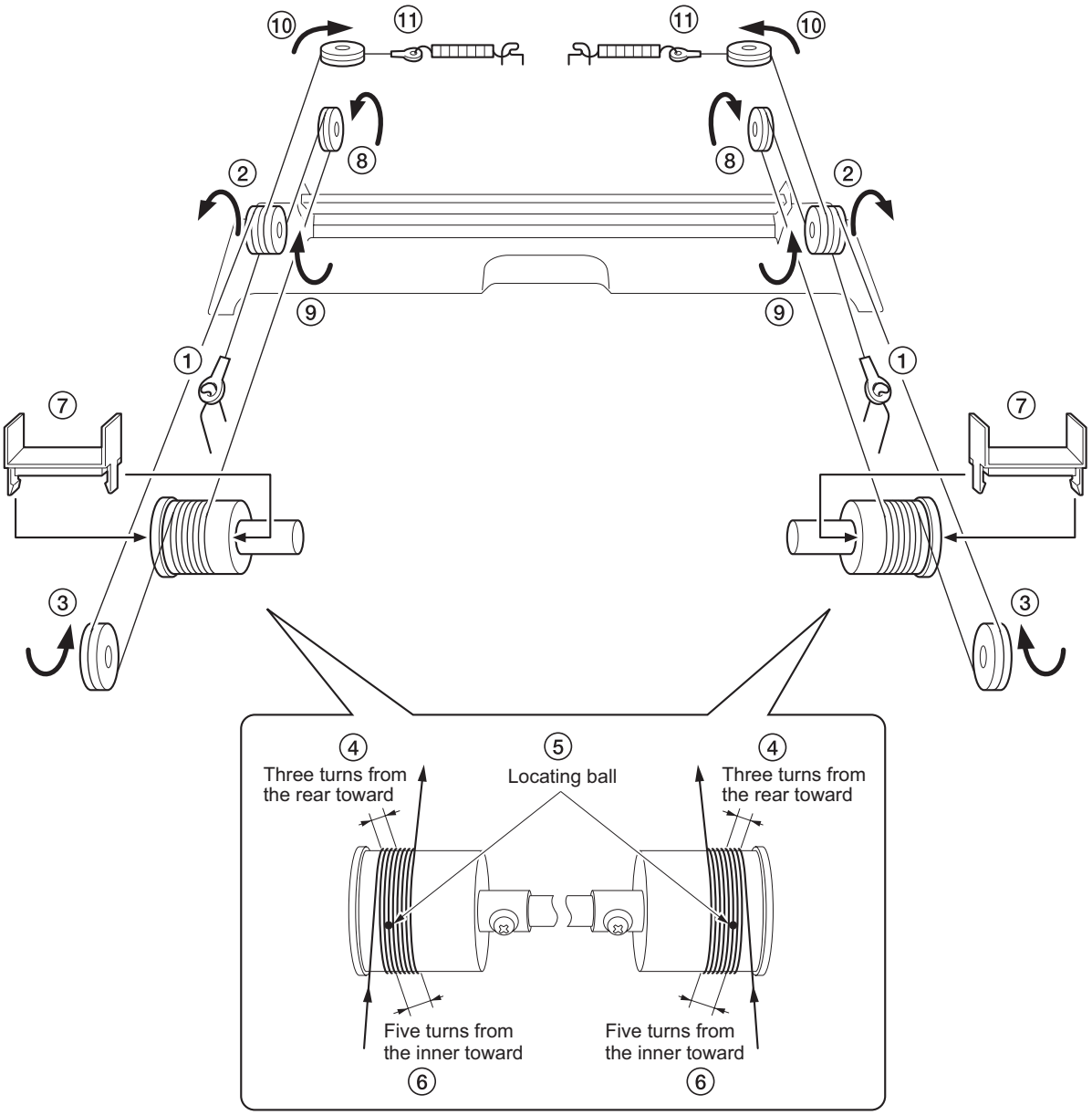


Figure 1-6-80

14. Remove the scanner wire stoppers.
15. Remove two screws from each of the frame securing tools and then the tools.
16. Focusing on the locating ball of the wire drum, move aside the wires to inside.
17. Move the mirror 2 frame from side to side to correctly locate the wires in position.
18. Refit the mirror 1 frame.
19. Move the mirror 1 and 2 frames to the machine left, and insert the two frame securing tools into the positioning holes at the front and rear of the scanner unit to secure the frames in position.
20. Secure the two screws from each of the frame securing tools and then the tools.
21. Hold the wires and fix each front and rear wire holder plate to mirror 1 frame with the screw.
22. Remove the frame securing tools.

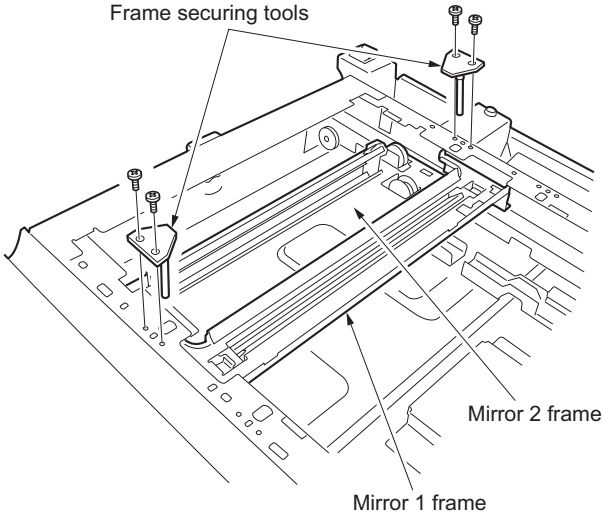


Figure 1-6-81

23. Refit the slit glass.
24. Refit the upper operation unit cover, operation unit right and left covers and staple tray.
25. Refit the upper rear cover and DP.
26. Refit the upper left cover and exposure lamp (see page 1-6-34).

(3) Detaching the laser scanner unit

Follow the procedure below to replace the laser scanner unit.

Procedure

1. Remove the hinge retainer and open DP until it becomes perpendicular (see page 1-6-34).
2. Remove the left upper cover, right upper cover and contact glass (see page 1-6-34).
3. Remove the screw and then remove the left cover.
4. Remove the staple tray, operation unit right cover, operation unit left cover and operation unit upper cover (see page 1-6-37).
5. Move the mirror 1 frame to the machine left.

* When moving the mirror 1 frame, do not touch the exposure lamp.

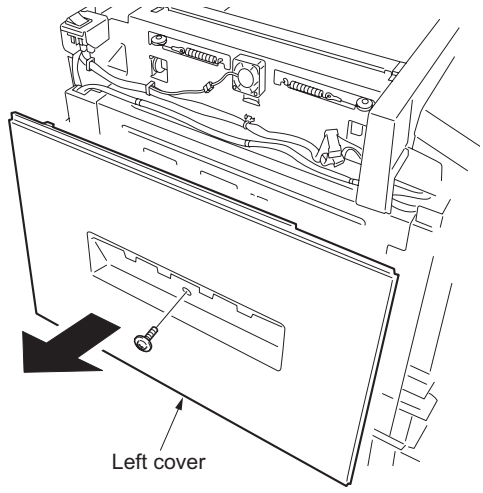


Figure 1-6-82

6. Remove three bands of the machine left to release the black wire.

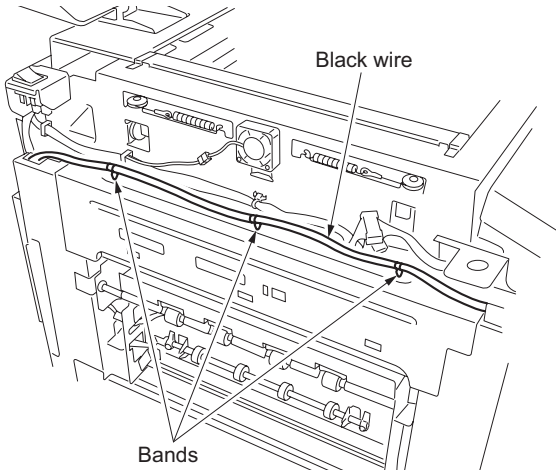


Figure 1-6-83

7. Remove five screws and then remove the upper left frame.

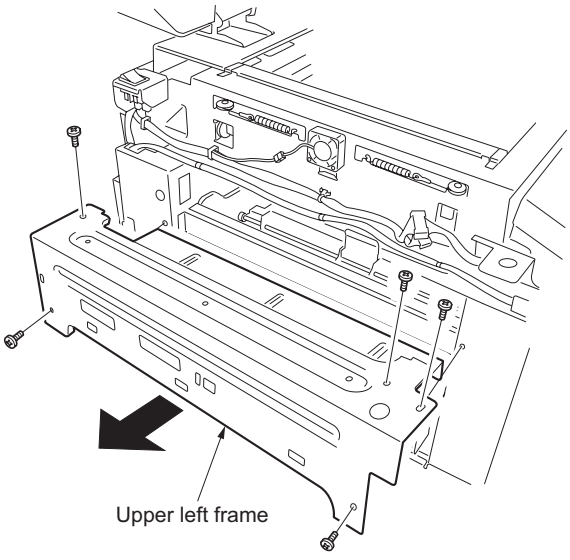


Figure 1-6-84

8. Remove two connectors of the machine left.

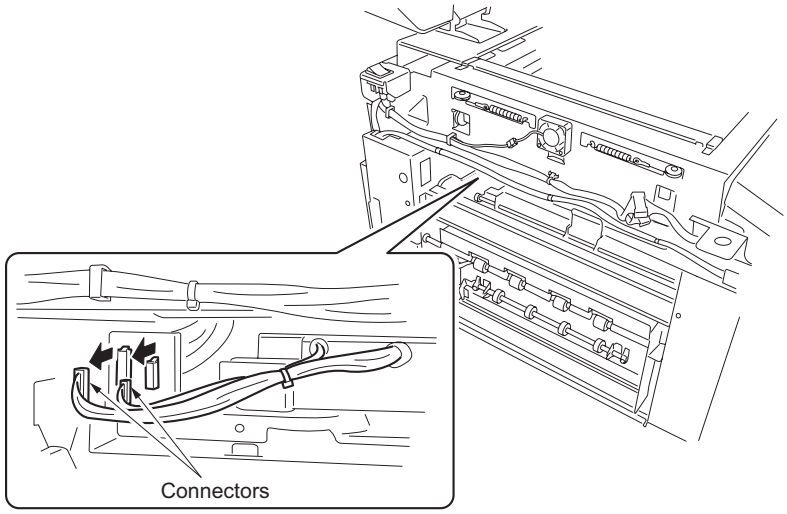


Figure 1-6-85

9. Remove four screws holding the laser scanner unit from holes inside the laser scanner unit.

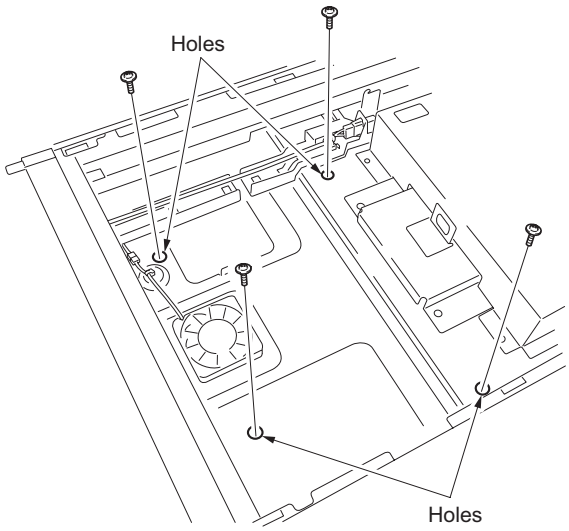


Figure 1-6-86

10. Raise the laser scanner unit and release two inserted parts.
    Remove the laser scanner unit from machine left.

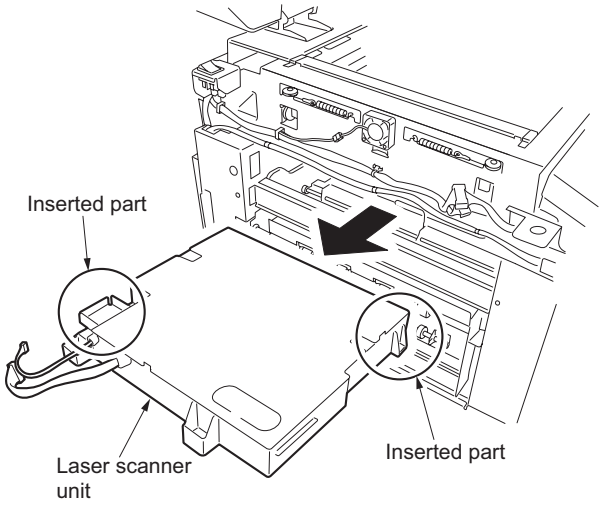


Figure 1-6-87

11. Replace the laser scanner unit and attach the unit.
* When attaching the laser scanner unit, check that two projections of the unit are inserted to the holes of inside the machine.

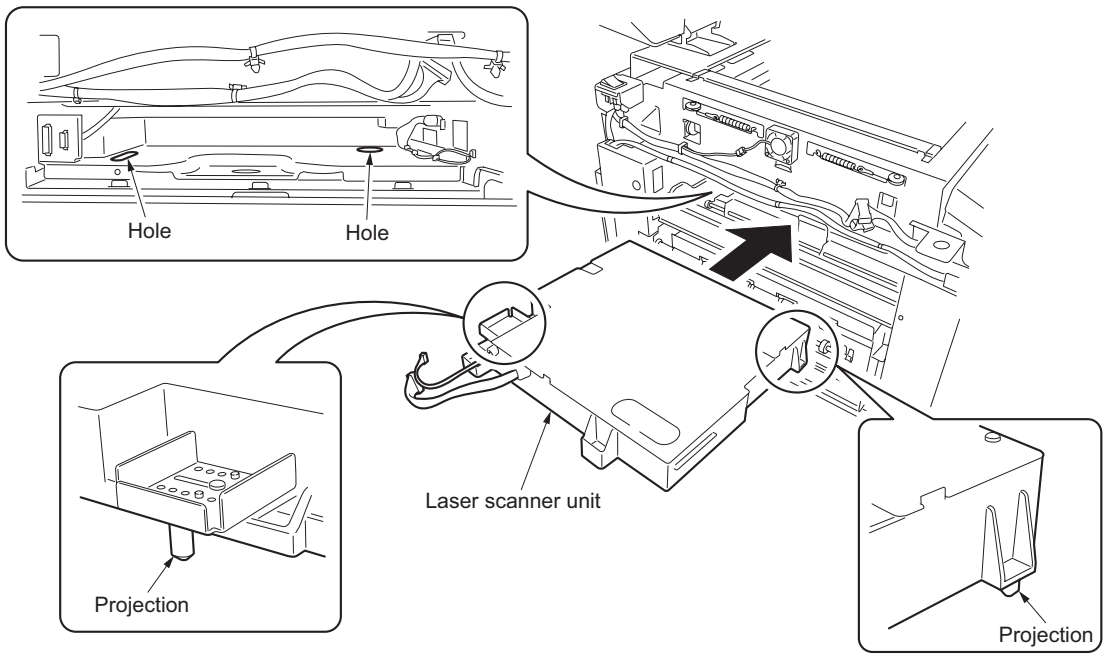


Figure 1-6-88

12. Refit the laser scanner unit using four screws and connect the two connectors.
13. Insert three claws of upper left frame to the inserted parts of inside the machine. Refit the upper left frame.

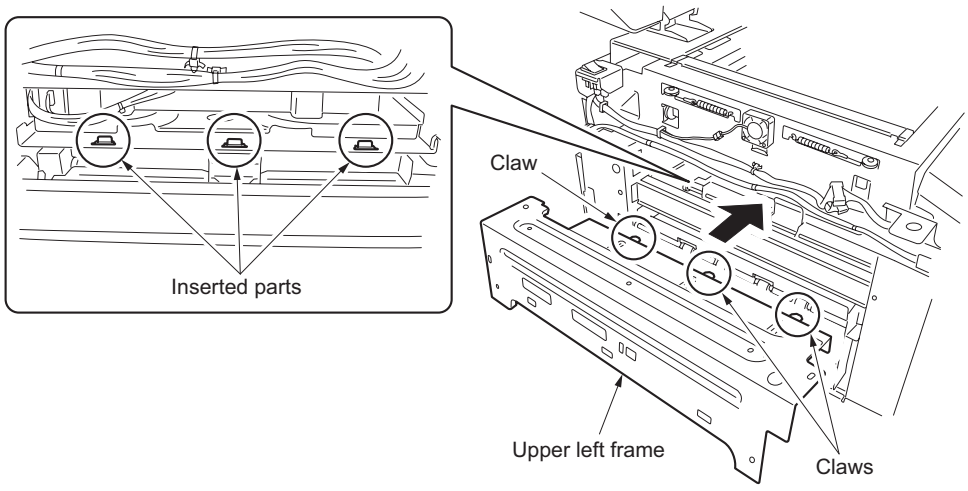


Figure 1-6-89

14. Refit three bands of black wire.
15. Refit the operation unit upper cover, operation unit right cover, operation unit left cover, staple tray and left cover.
16. Refit the left upper cover, contact glass and right upper cover.
17. Refit the hinge retainer.

18. Connect the power cord and turn the main power switch on.
19. Enter the maintenance mode.
20. Run the maintenance item U472 to enter the numerical value indicated by the LSU cover.

(4) Detaching and refitting the ISU (reference)

Follow the procedure below to check or replace the ISU.

Caution
After replacing the ISU, perform (6-2) Adjusting the position of the ISU (see page 1-6-50).

Fitting requires the following tools
Two positions pins

Procedure

1. Remove two screws of hinge retainer at the rear side of the left hinge and then remove the retainer from DP.
2. Remove the upper right cover and contact glass (see page 1-6-34).
3. Remove four screws and then remove the ISU cover.

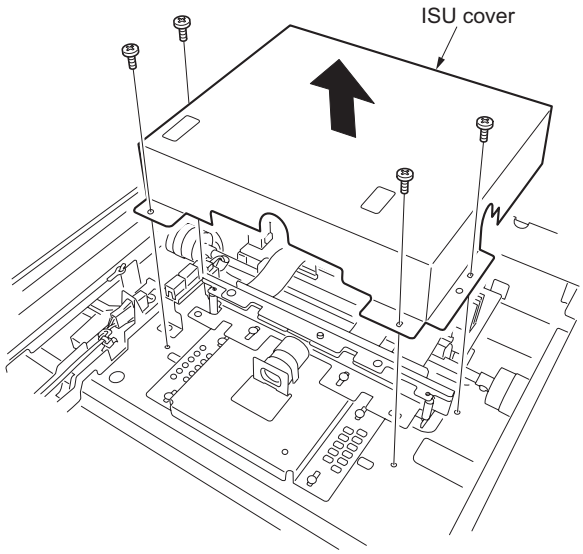


Figure 1-6-90

4. Remove three flexible flat cables.
5. Remove the four screws and then ISU from the machine.

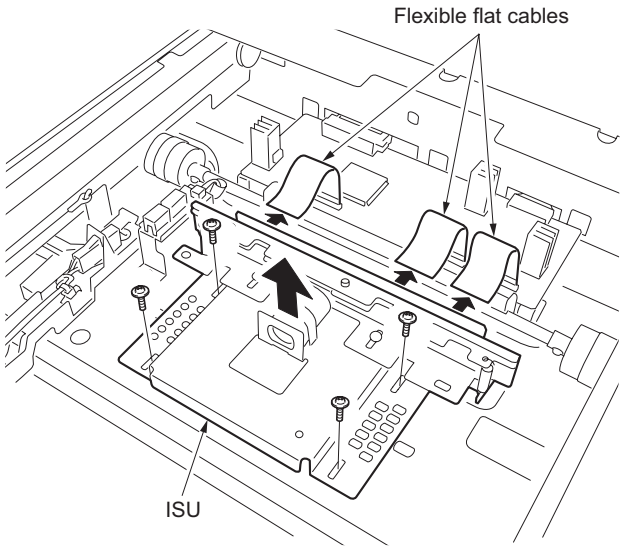


Figure 1-6-91

6. Check or replace the ISU.
7. Position ISU at the frame hole number as same as the number indicated on the lens of ISU image scanning unit and insert two positioning pins to the holes.

* Example: When 7 is indicated on the lens, position ISU at the positioning hole 7 indicated on the scanner unit, and inset two positioning pins.

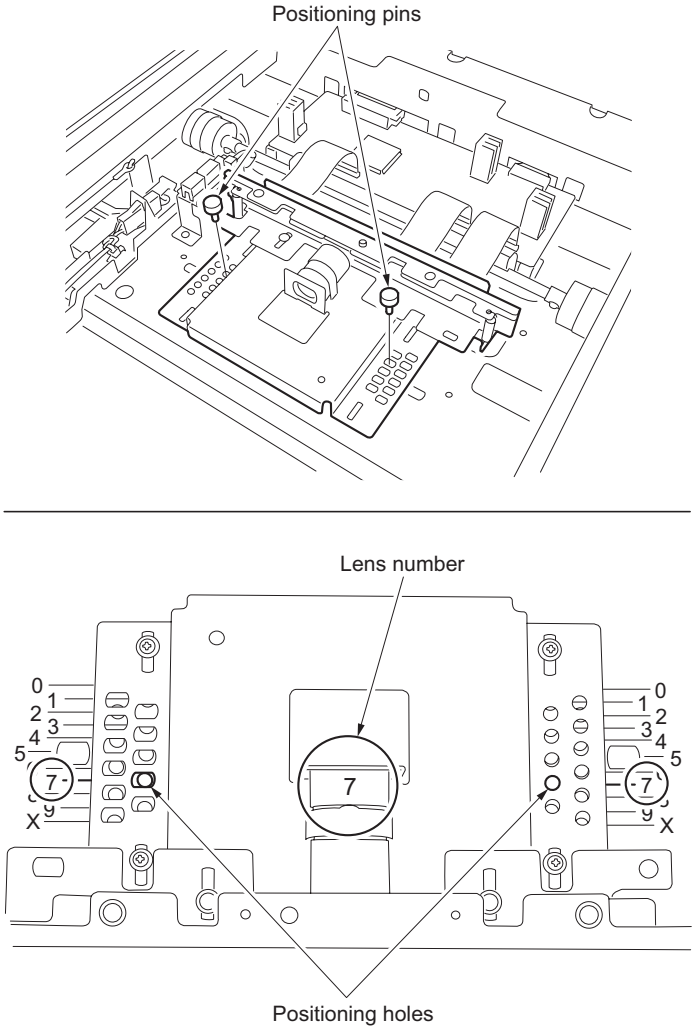


Figure 1-6-92

8. Refit the ISU using four screws and then remove two positions pins.
9. Refit three flexible flat cables.
10. Refit the ISU cover.
11. Refit the contact glass and upper right cover.
12. Refit the hinge retainer.

(5) Adjusting the longitudinal squareness (reference)

Perform the following adjustment if the copy image is longitudinally skewed (longitudinal squareness is not obtained).

Caution:
Adjust the amount of slack in the paper at the registration roller first (see page 1-6-29). Check for the longitudinal squareness of the copy image, and if it is not obtained, perform the longitudinal squareness adjustment.
Before making the following adjustment, output a 1 dot LINE PG pattern in maintenance item U089 to use as the original for the adjustment.

Procedure

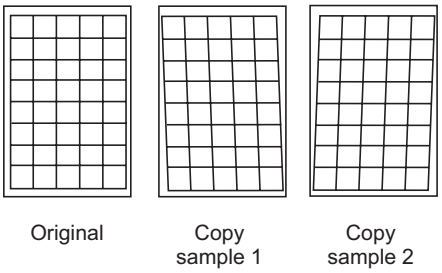
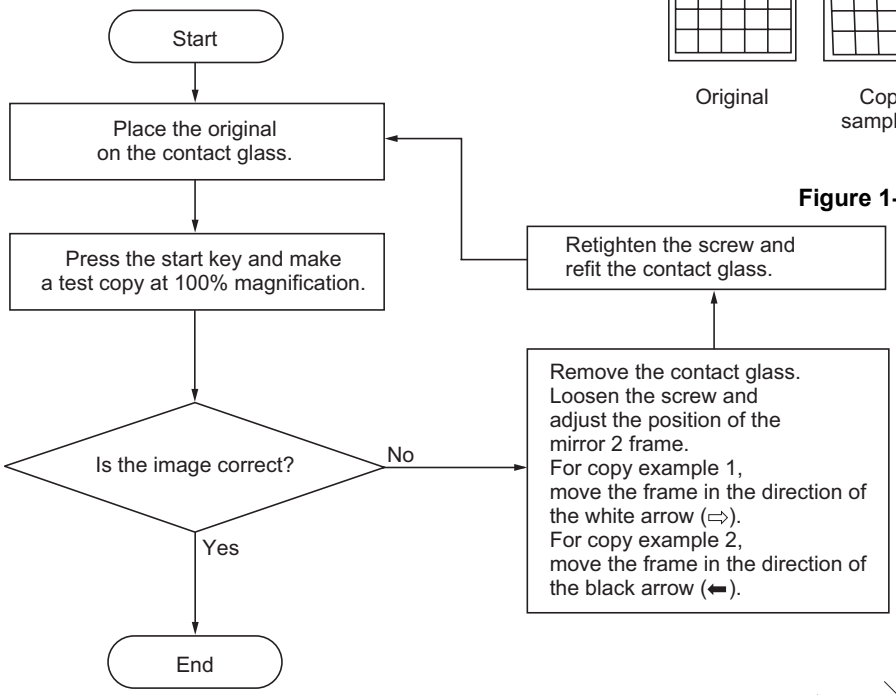


Figure 1-6-93


Start
Place the original on the contact glass.
Press the start key and make a test copy at 100% magnification.
Is the image correct?
No
Yes
End
Retighten the screw and refit the contact glass.
Remove the contact glass.
Loosen the screw and adjust the position of the mirror 2 frame.
For copy example 1, move the frame in the direction of the white arrow (⇨).
For copy example 2, move the frame in the direction of the black arrow (⬅).

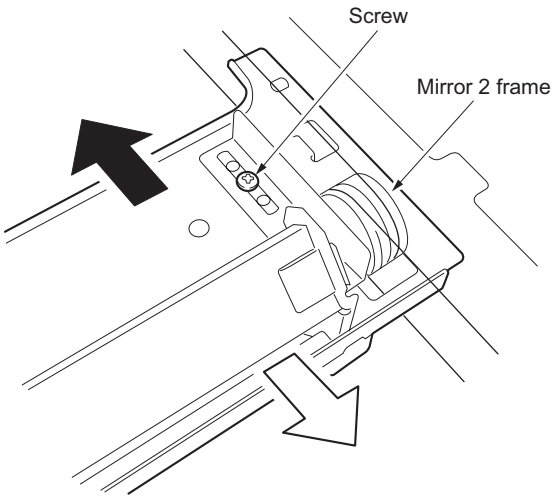


Figure 1-6-94

(6) Adjusting scanner image lateral squareness (reference)

Perform the following adjustment if the copy image is laterally skewed (lateral squareness not obtained).

Caution:
Perform (6-1) Adjusting the position of the laser scanner unit first and check for lateral squareness of the copy image. If squareness is not obtained, perform (6-2) Adjusting the position of ISU (see page 1-6-50).

(6-1)Adjusting the position of the laser scanner unit

Procedure

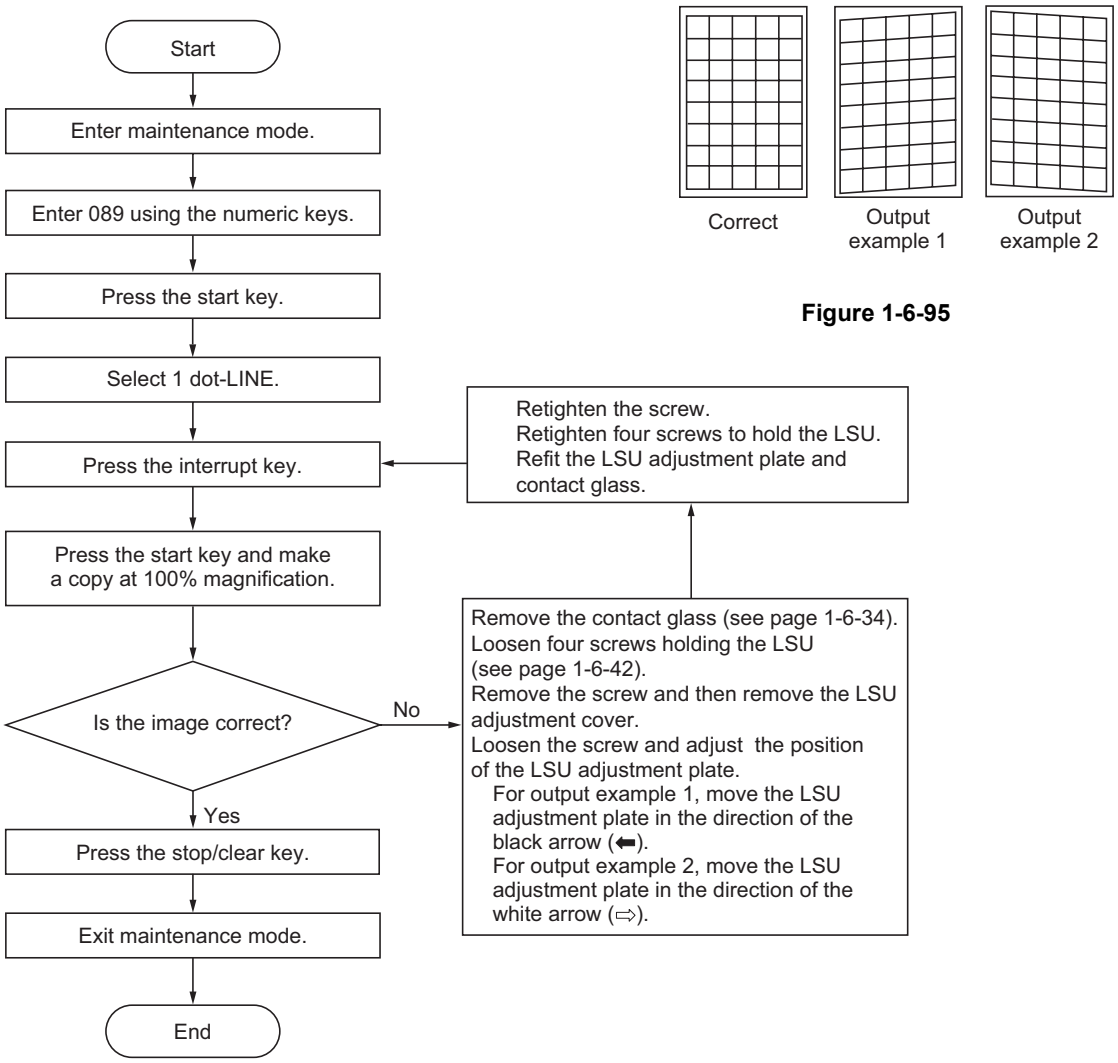

Start
Enter maintenance mode.
Enter 089 using the numeric keys.
Press the start key.
Select 1 dot-LINE.
Press the interrupt key.
Press the start key and make a copy at 100% magnification.
Is the image correct?
No
Yes
Press the stop/clear key.
Exit maintenance mode.
End
Retighten the screw.
Retighten four screws to hold the LSU.
Refit the LSU adjustment plate and contact glass.
Remove the contact glass (see page 1-6-34).
Loosen four screws holding the LSU (see page 1-6-42).
Remove the screw and then remove the LSU adjustment cover.
Loosen the screw and adjust the position of the LSU adjustment plate.
For output example 1, move the LSU adjustment plate in the direction of the black arrow (⬅).
For output example 2, move the LSU adjustment plate in the direction of the white arrow (⇨).
Correct
Output example 1
Output example 2

Figure 1-6-95

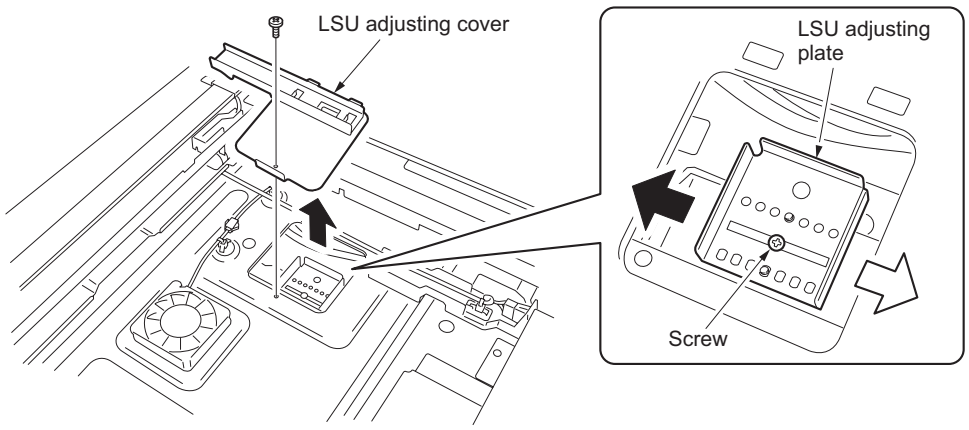


Figure 1-6-96

(6-2)Adjusting the position of the ISU

Perform the following adjustment if the leading and trailing edges of the copy image are laterally skewed (lateral squareness not obtained).

Caution:
Before making the following adjustment, output a 1 dot LINE PG pattern in maintenance item U089 to use as the original for the adjustment.
Adjust the pin at the machine front only and never touch the one at the machine rear.

Procedure

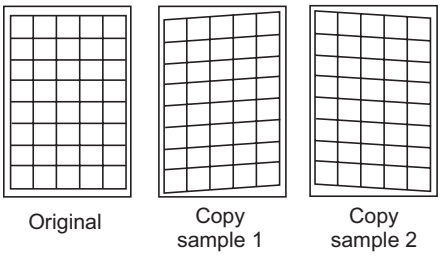
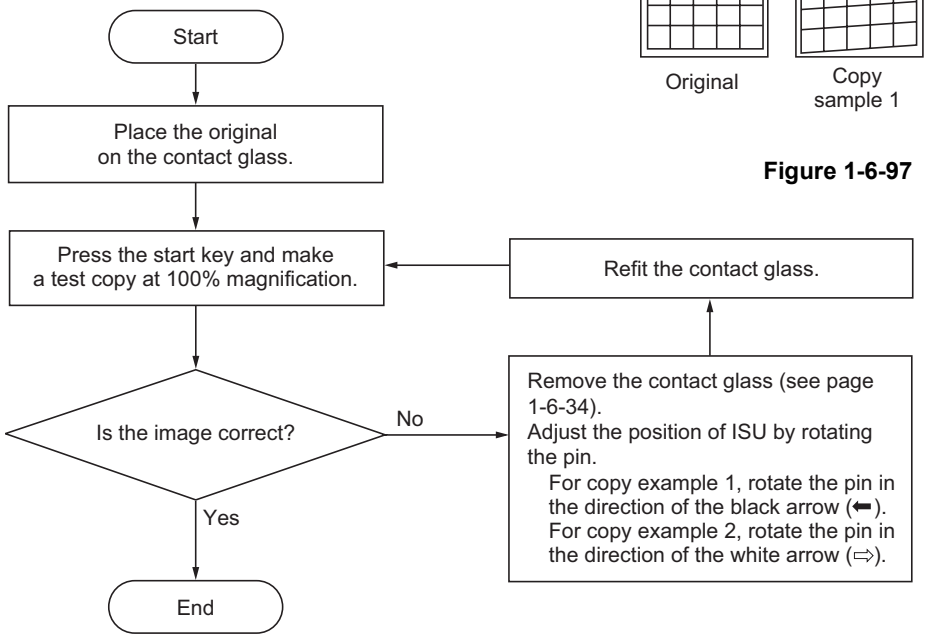


Figure 1-6-97


Start
Place the original on the contact glass.
Press the start key and make a test copy at 100% magnification.
Refit the contact glass.
Is the image correct?
No
Yes
Remove the contact glass (see page 1-6-34).
Adjust the position of ISU by rotating the pin.
For copy example 1, rotate the pin in the direction of the black arrow (⬅).
For copy example 2, rotate the pin in the direction of the white arrow (⇨).
End

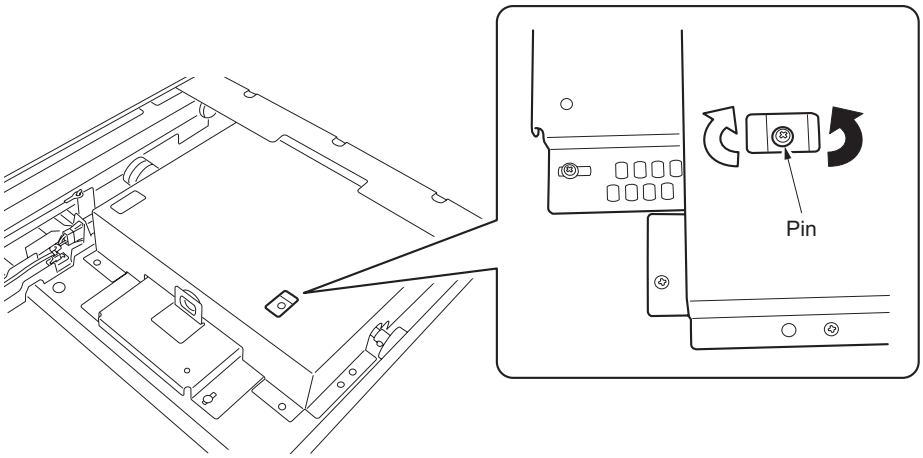
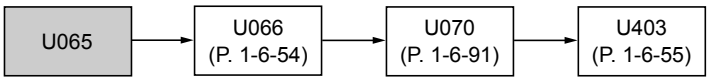


Figure 1-6-98

(7) Adjusting magnification of the scanner in the main scanning direction

Perform the following adjustment if the magnification in the main scanning direction is not correct.

.



<Caution>

Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

<Procedure>

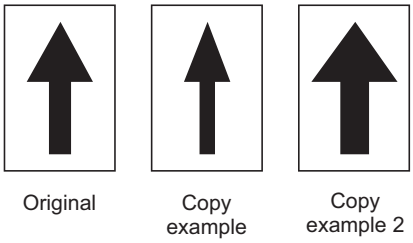
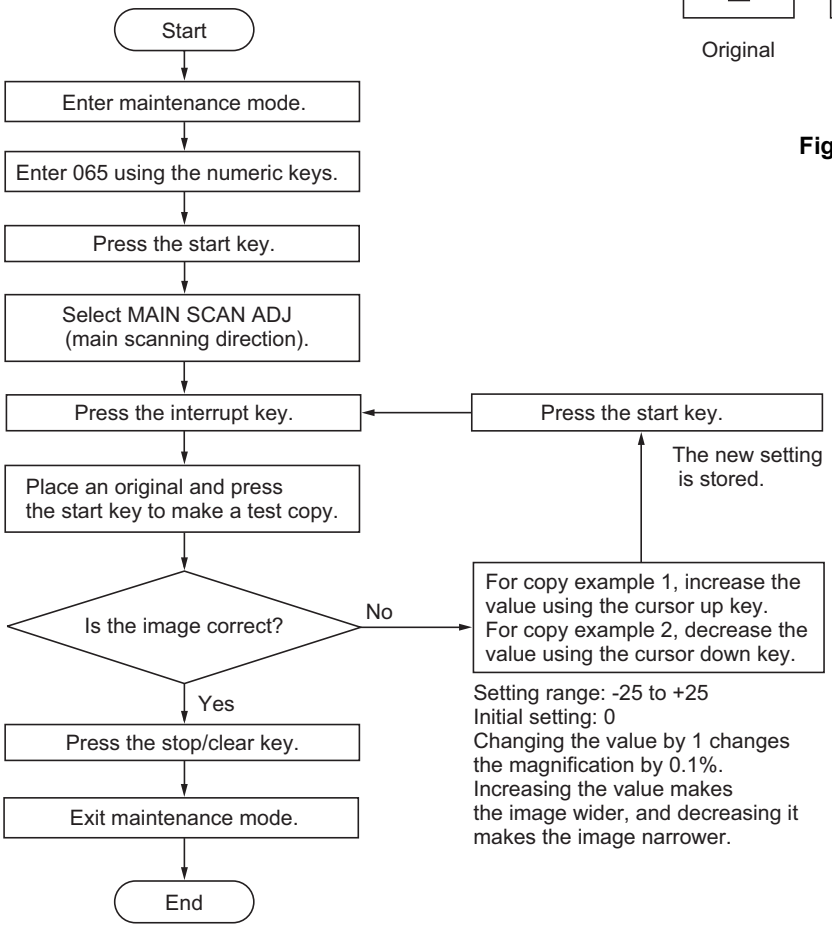
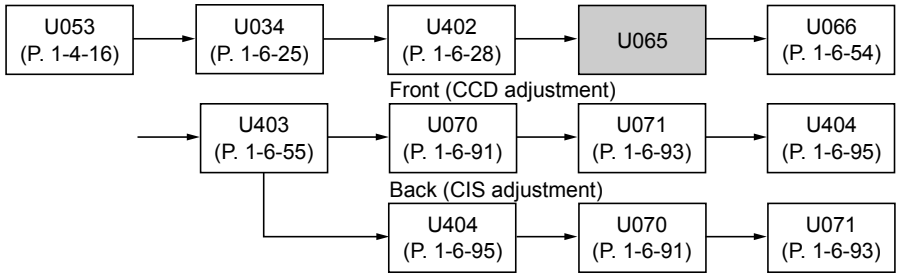


Figure 1-6-99


Start
Enter maintenance mode.
Enter 065 using the numeric keys.
Press the start key.
Select MAIN SCAN ADJ (main scanning direction).
Press the interrupt key.
Press the start key.
The new setting is stored.
Place an original and press the start key to make a test copy.
Is the image correct?
No
For copy example 1, increase the value using the cursor up key.
For copy example 2, decrease the value using the cursor down key.
Setting range: -25 to +25
Initial setting: 0
Changing the value by 1 changes the magnification by 0.1%.
Increasing the value makes the image wider, and decreasing it makes the image narrower.
Yes
Press the stop/clear key.
Exit maintenance mode.
End

(8) Adjusting magnification of the scanner in the auxiliary scanning direction

Perform the following adjustment if the magnification in the auxiliary scanning direction is not correct.



<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>

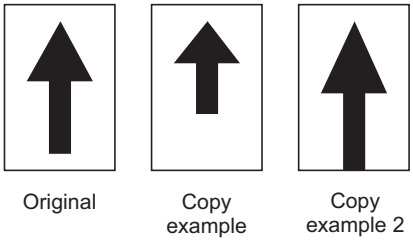
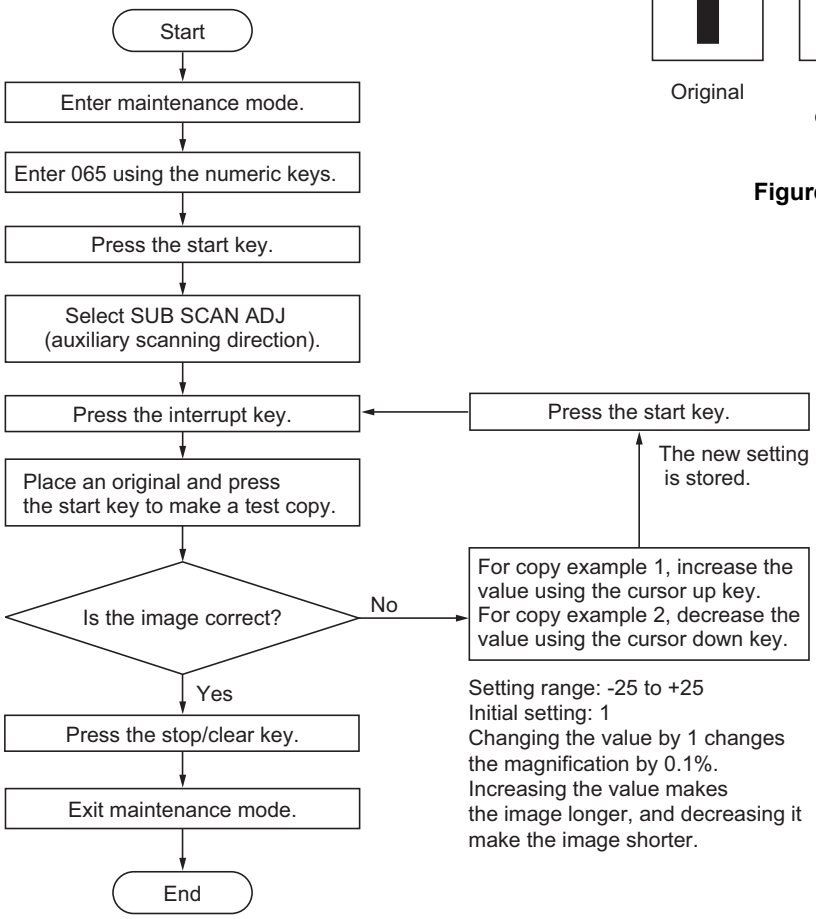
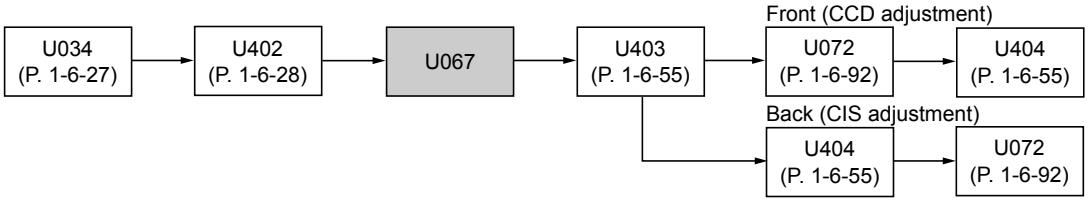


Figure 1-6-100


Start
Enter maintenance mode.
Enter 065 using the numeric keys.
Press the start key.
Select SUB SCAN ADJ
(auxiliary scanning direction).
Press the interrupt key.
Press the start key.
The new setting is stored.
Place an original and press the start key to make a test copy.
Is the image correct?
No
For copy example 1, increase the value using the cursor up key.
For copy example 2, decrease the value using the cursor down key.
Setting range: -25 to +25
Initial setting: 1
Changing the value by 1 changes the magnification by 0.1%.
Increasing the value makes the image longer, and decreasing it make the image shorter.
Yes
Press the stop/clear key.
Exit maintenance mode.
End

(9) Adjusting the scanner center line

Perform the following adjustment if there is a regular error between the center lines of the copy image and original.



<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>

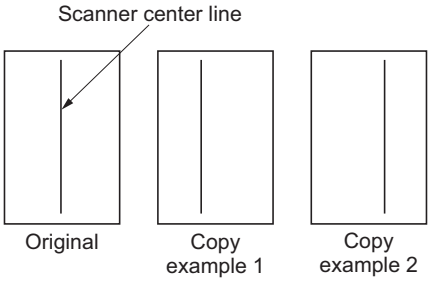
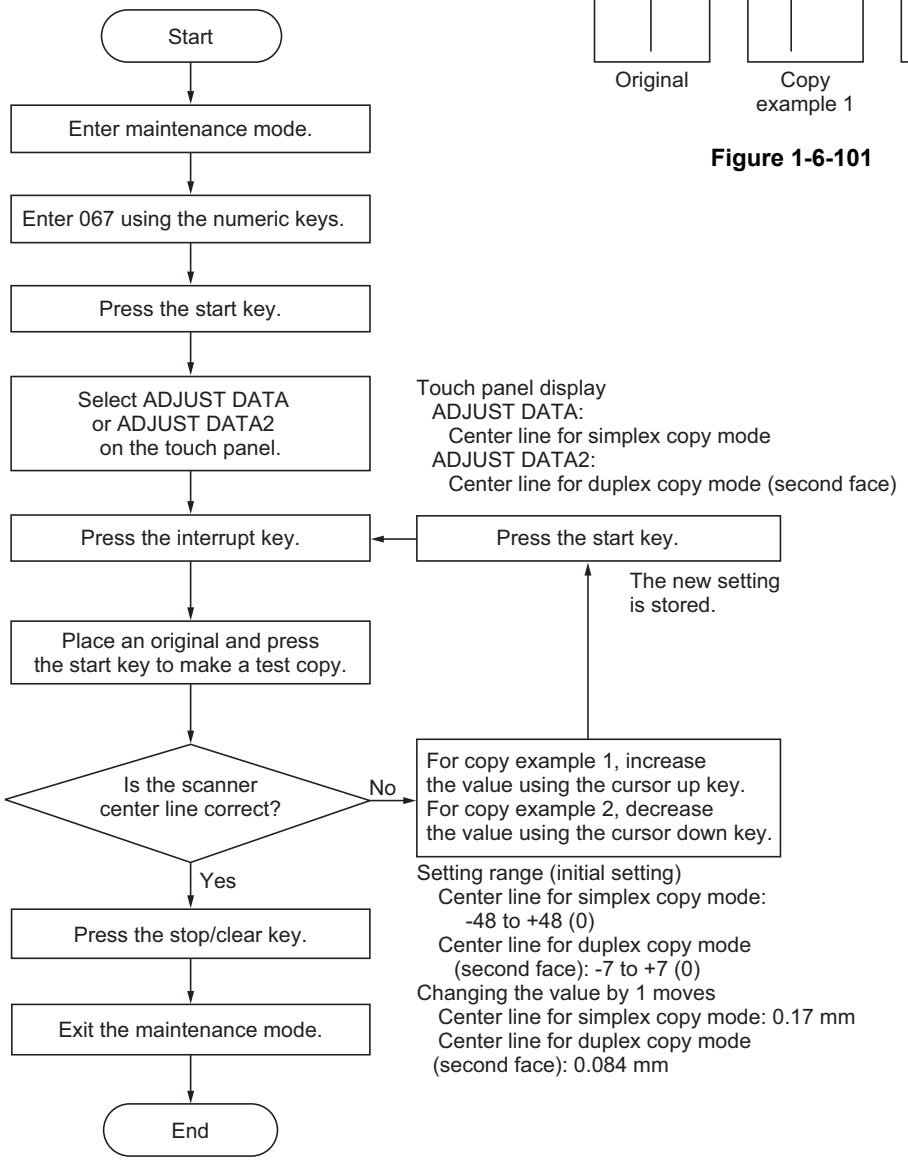
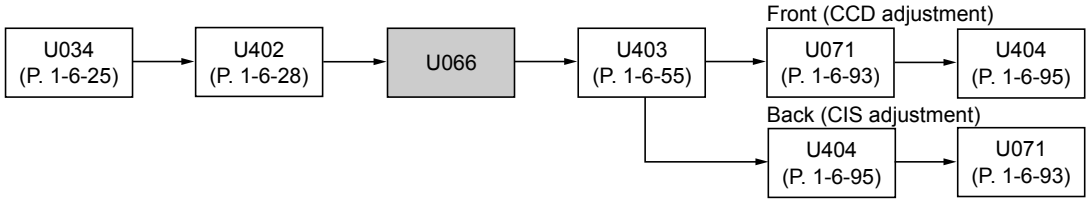


Figure 1-6-101


Start
Enter maintenance mode.
Enter 067 using the numeric keys.
Press the start key.
Select ADJUST DATA or ADJUST DATA2 on the touch panel.
Touch panel display
ADJUST DATA:
Center line for simplex copy mode
ADJUST DATA2:
Center line for duplex copy mode (second face)
Press the interrupt key.
Press the start key.
The new setting is stored.
Place an original and press the start key to make a test copy.
Is the scanner center line correct?
No
For copy example 1, increase the value using the cursor up key.
For copy example 2, decrease the value using the cursor down key.
Setting range (initial setting)
Center line for simplex copy mode: -48 to +48 (0)
Center line for duplex copy mode (second face): -7 to +7 (0)
Changing the value by 1 moves
Center line for simplex copy mode: 0.17 mm
Center line for duplex copy mode (second face): 0.084 mm
Yes
Press the stop/clear key.
Exit the maintenance mode.
End

(10) Adjusting the scanner leading edge registration

Perform the following adjustment if there is regular error between the leading edges of the copy image and original.



<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>

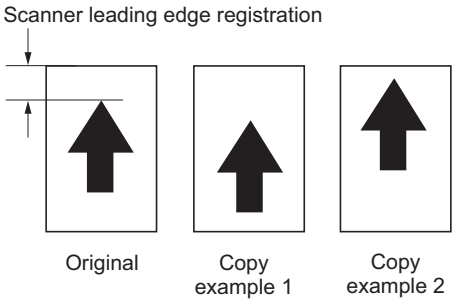
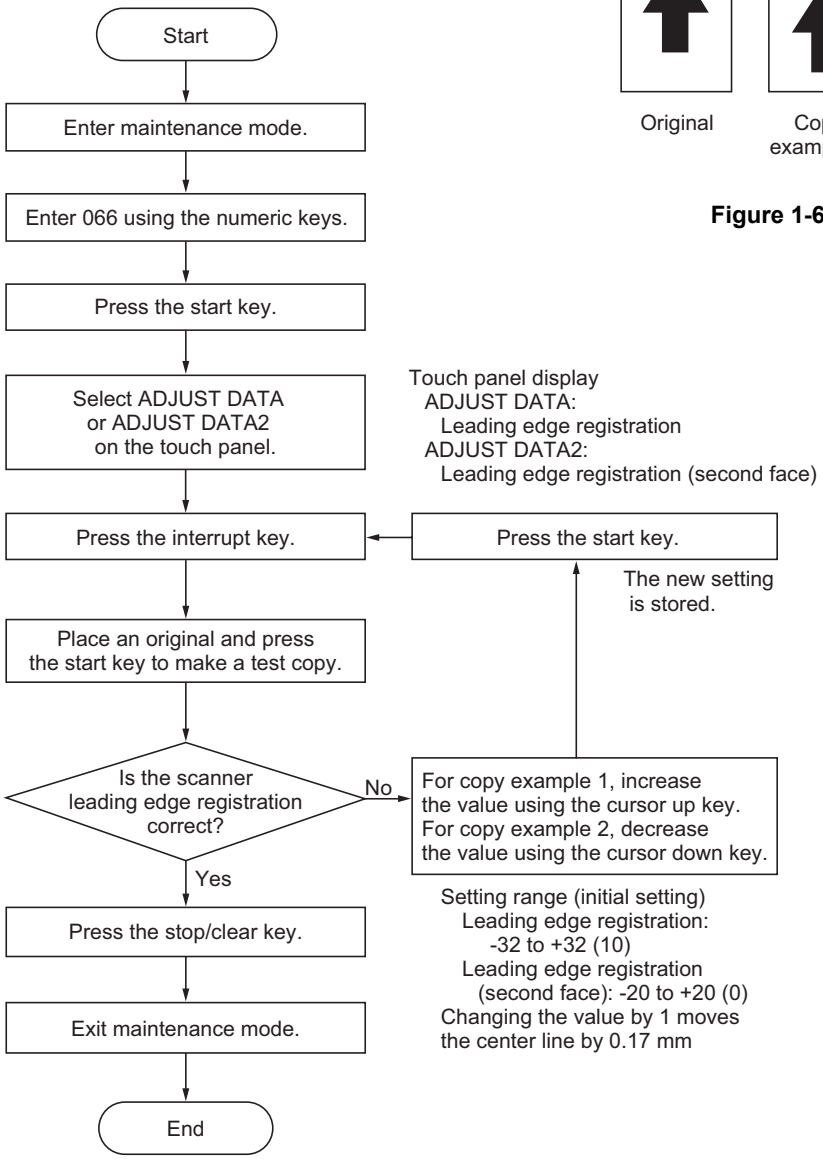


Figure 1-6-102


Start
Enter maintenance mode.
Enter 066 using the numeric keys.
Press the start key.
Select ADJUST DATA or ADJUST DATA2 on the touch panel.
Touch panel display
ADJUST DATA:
Leading edge registration
ADJUST DATA2:
Leading edge registration (second face)
Press the interrupt key.
Press the start key.
The new setting is stored.
Place an original and press the start key to make a test copy.
Is the scanner leading edge registration correct?
No
For copy example 1, increase the value using the cursor up key.
For copy example 2, decrease the value using the cursor down key.
Setting range (initial setting)
Leading edge registration:
-32 to +32 (10)
Leading edge registration (second face): -20 to +20 (0)
Changing the value by 1 moves the center line by 0.17 mm
Yes
Press the stop/clear key.
Exit maintenance mode.
End

(11) Adjusting the margins for scanning an original on the contact glass

Perform the following adjustment if the margins are not correct.

U402 (P. 1-6-28) → U403 → U404 (P. 1-6-95)

<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>

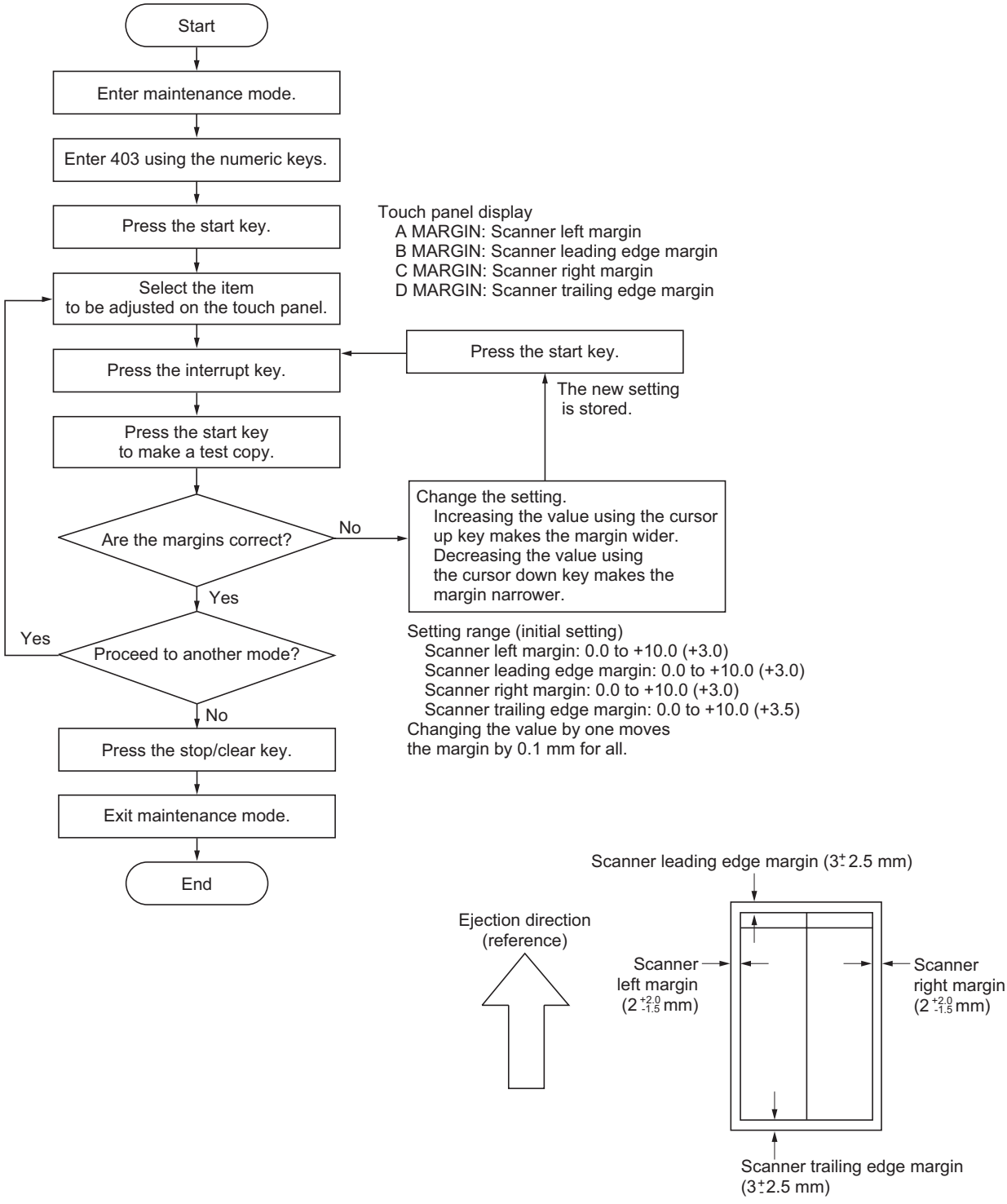

Start
Enter maintenance mode.
Enter 403 using the numeric keys.
Press the start key.
Select the item to be adjusted on the touch panel.
Press the interrupt key.
Press the start key to make a test copy.
Are the margins correct?
No
Yes
Proceed to another mode?
Yes
No
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
A MARGIN: Scanner left margin
B MARGIN: Scanner leading edge margin
C MARGIN: Scanner right margin
D MARGIN: Scanner trailing edge margin
Press the start key.
The new setting is stored.
Change the setting.
Increasing the value using the cursor up key makes the margin wider.
Decreasing the value using the cursor down key makes the margin narrower.
Setting range (initial setting)
Scanner left margin: 0.0 to +10.0 (+3.0)
Scanner leading edge margin: 0.0 to +10.0 (+3.0)
Scanner right margin: 0.0 to +10.0 (+3.0)
Scanner trailing edge margin: 0.0 to +10.0 (+3.5)
Changing the value by one moves the margin by 0.1 mm for all.
Scanner leading edge margin (3±2.5 mm)
Ejection direction (reference)
Scanner left margin (2 +2.0 -1.5 mm)
Scanner right margin (2 +2.0 -1.5 mm)
Scanner trailing edge margin (3±2.5 mm)

Figure 1-6-103

1-6-5 Drum section

(1) Detaching and refitting the drum

Follow the procedure below to clean or replace the drum.

Cautions:
Avoid direct sunlight and strong light when detaching and refitting the drum.
Hold the drum at the ends and never touch the drum surface.
After removing the drum, keep it in the drum case or storage bag to protect the surface from light.
When cleaning drum, rub with a clean cloth.

Procedure

1. Remove the drum heater electrode (see page 1-6-59).
2. Remove the main charger unit (see page 1-6-31).
3. Remove the cleaning unit (see page 1-6-66).
4. Remove the developing unit (see page 1-6-60).
5. Remove each pin at front and rear of the image formation unit and then open the drum stopper in the direction of the arrow.

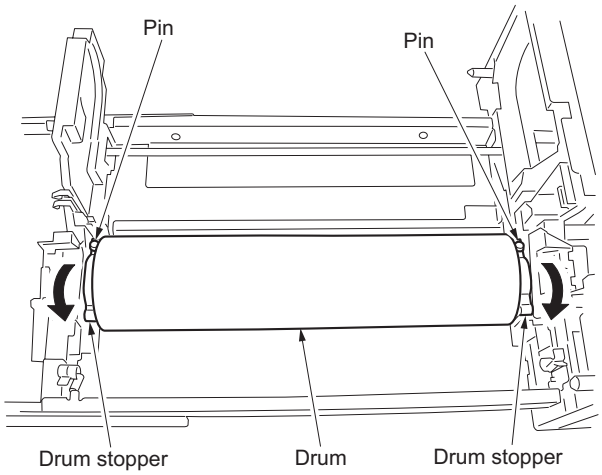


Figure 1-6-104

6. Remove the drum from the image formation unit.
7. Remove two bearings from ends of the drum.

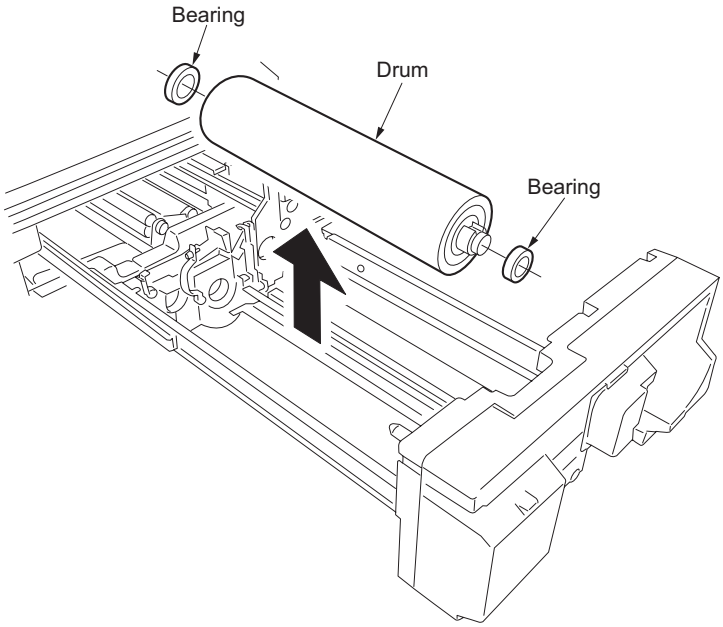


Figure 1-6-105

8. Clean or replace the drum.
9. Refit the bearings and then the drum.
10. Refit the developing unit, cleaning unit, main charger unit and drum heater electrode.

(2) Detaching and refitting the drum heater

Follow the procedure below to replace the drum.

Procedure

1. Remove the drum (see page 1-6-56).
2. Remove two screws and then remove the front drum flange from the drum.
3. Remove two connectors connected to the inner side in the front drum flange.

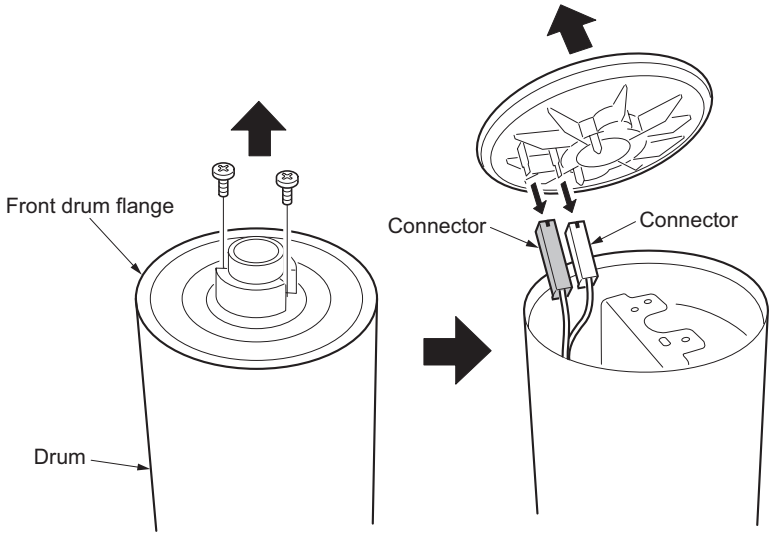


Figure 1-6-106

4. Pull out the rear drum flange slowly from the drum with the drum stay, and remove the connector.

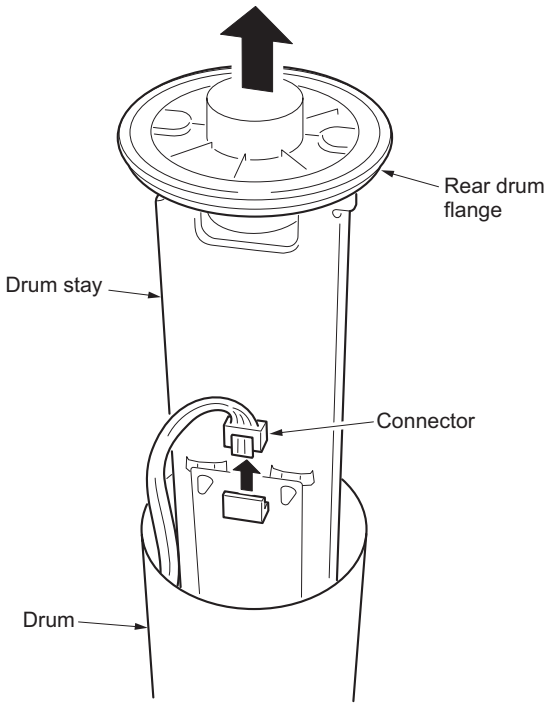


Figure 1-6-107

5. Pull out the drum stay from the drum.
6. Remove the drum heater from the drum.

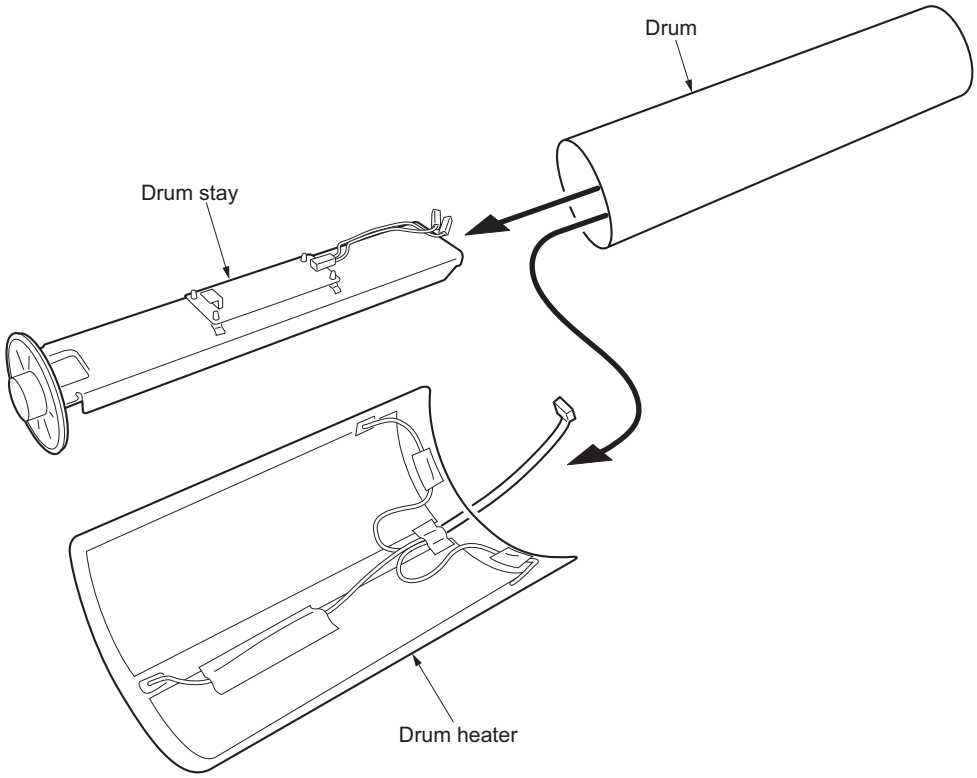


Figure 1-6-108

7. Replace the drum.
8. Insert the drum heater to the drum.
9. Refit the drum stay to the drum.
10. Refit the front drum flange to the drum.
11. Refit the drum, developing unit, cleaning unit, main charger unit and drum heater electrode.

(3) Detaching and refitting the drum heater electrode

Follow the procedure below to replace the drum heater electrode.

Procedure

1. Open the front cover. Turn lever A2 to left.
2. Remove the screw and then remove the cover.
3. Remove the connector.

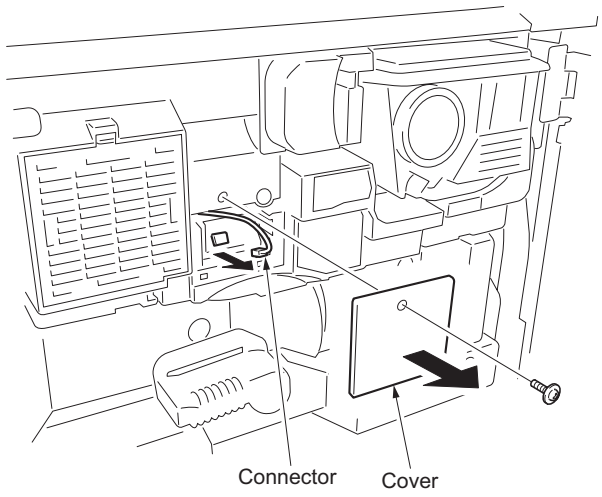


Figure 1-6-108-1

4. Release two projections and remove the inner cover.

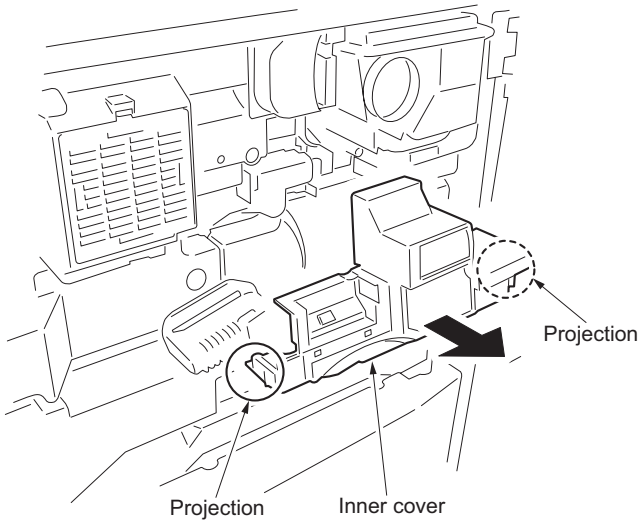


Figure 1-6-109

5. Remove the connector and screw, and then remove the drum heater electrode.
6. Replace the drum heater electrode and refit the electrode.
7. Refit the inner cover.

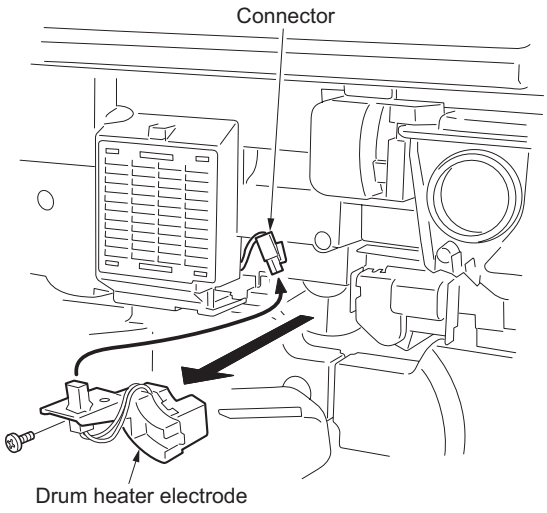


Figure 1-6-110

1-6-6 Developing section

(1) Detaching and refitting the developing unit

Procedure

1. Open front cover and then remove the toner container.
2. Remove two screws and pull out the image formation unit.
3. Remove the connector and release the lock stay as shown in the figure.

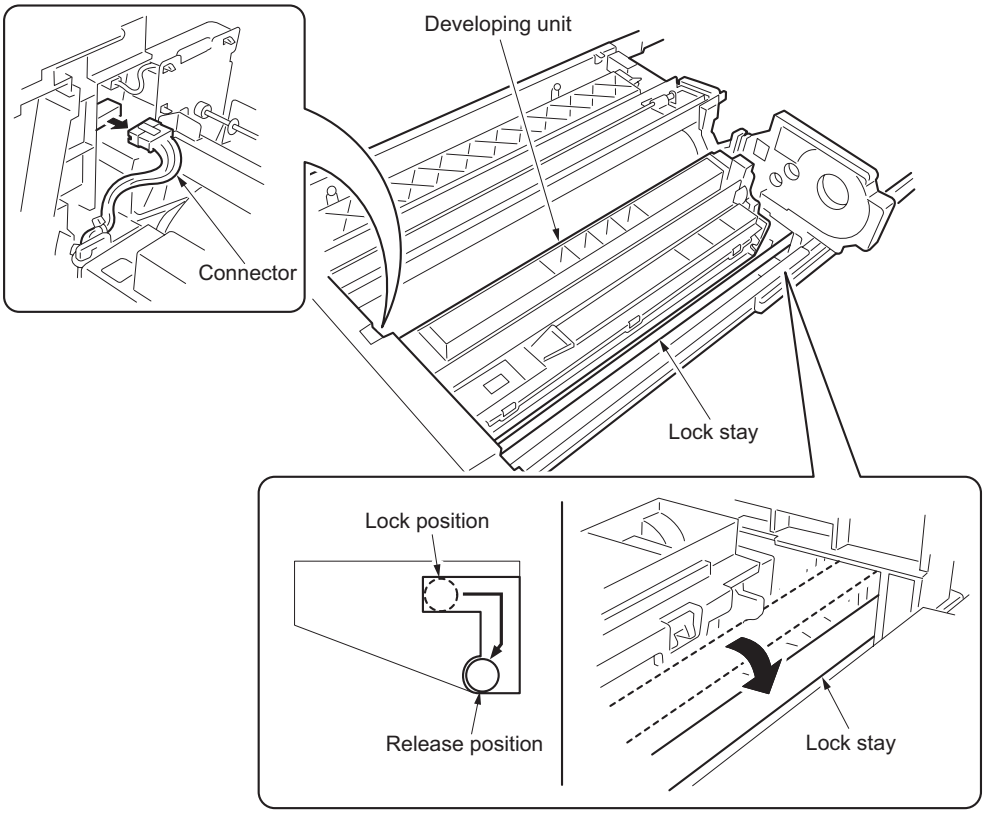


Figure 1-6-111

4. Remove the developing unit from the image formation unit.

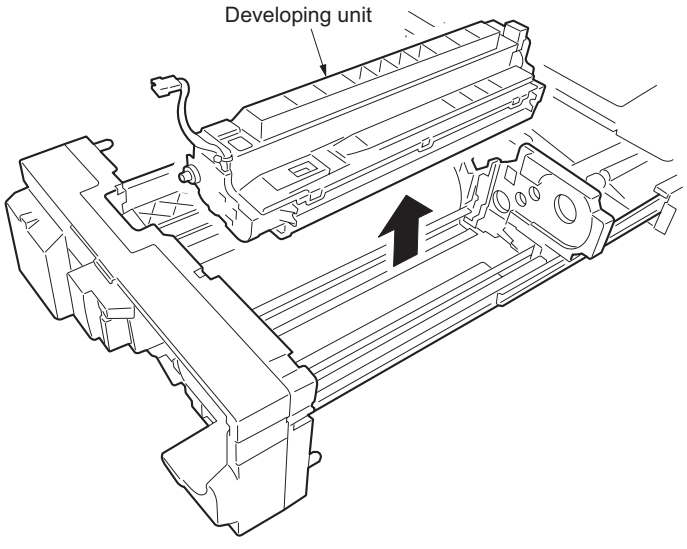


Figure 1-6-112

1-6-7 Transfer section

(1) Detaching and refitting the transfer unit

Procedure

1. Open the front cover and pull out the paper conveying unit.
2. Remove the screw and then remove the rear transfer guide.

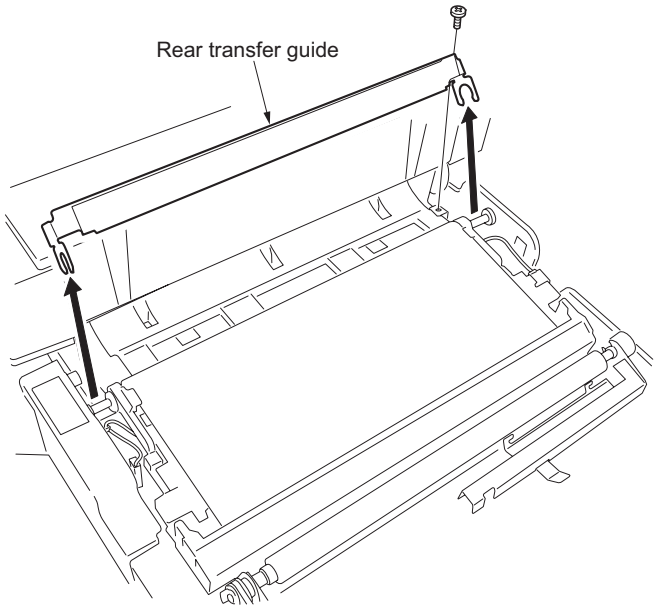


Figure 1-6-113

3. Remove the stop ring and bush of the paper conveying unit front.
4. Remove the connector of the paper conveying unit rear and then push up the transfer unit.

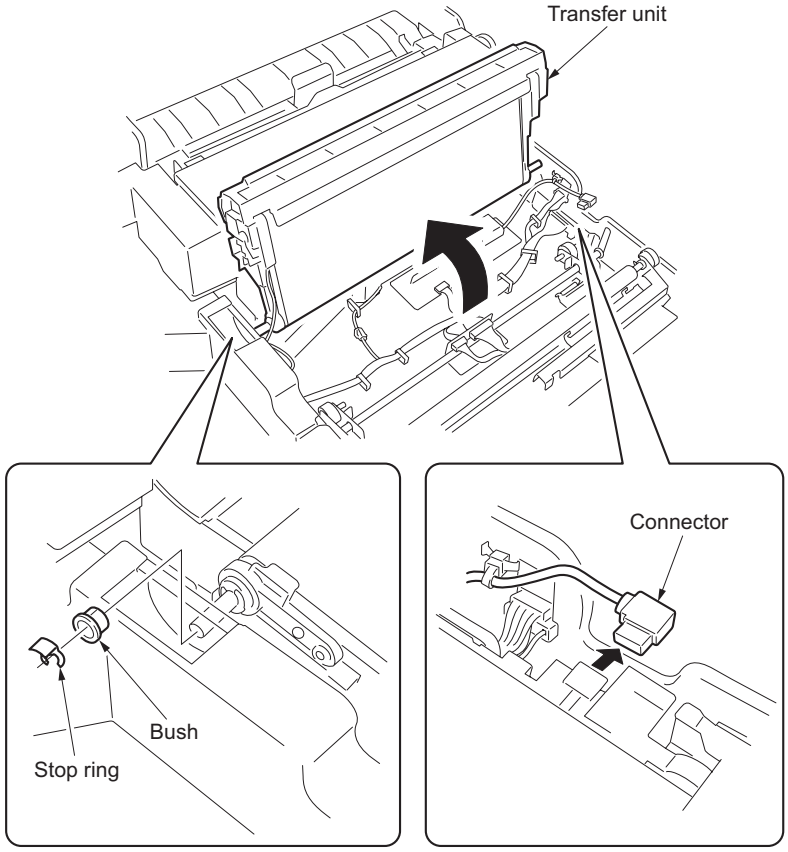


Figure 1-6-114

5. Remove the connector and band of the paper conveying unit front.

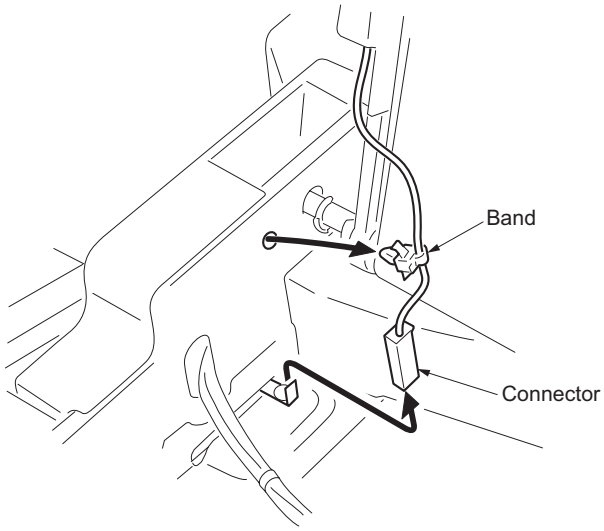


Figure 1-6-115

6. After sliding the transfer unit to end and pulling out the front shaft from the frame, pull out the rear coupling from the hole of the frame as shown in the figure, and remove the transfer unit from the paper conveying unit.

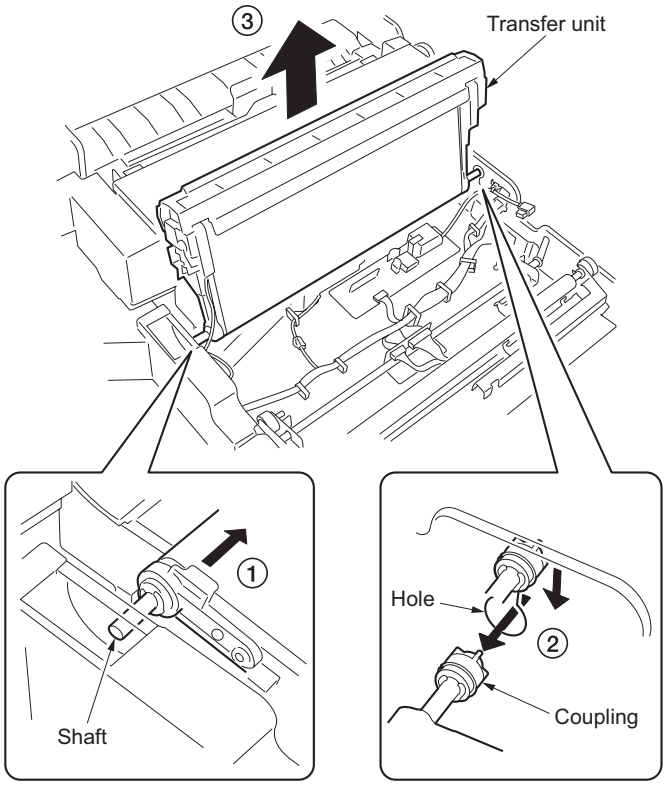


Figure 1-6-116

(2) Detaching and refitting the transfer belt

Follow the procedure below to replace the transfer belt.

Caution:
When handling the transfer belt, hold the both end of the transfer belt (within 10 mm), never touch the surface with bare hand.
Be careful not so as to adhere grease on the surface of the transfer belt.

Procedure

1. Remove the transfer unit (see page 1-6-61).
2. Rotate the transfer front guide and fit the angle of the end of the inserted shaft as shown in the figure, and then remove the transfer front guide from the transfer unit.
3. Remove the spring from the transfer unit.

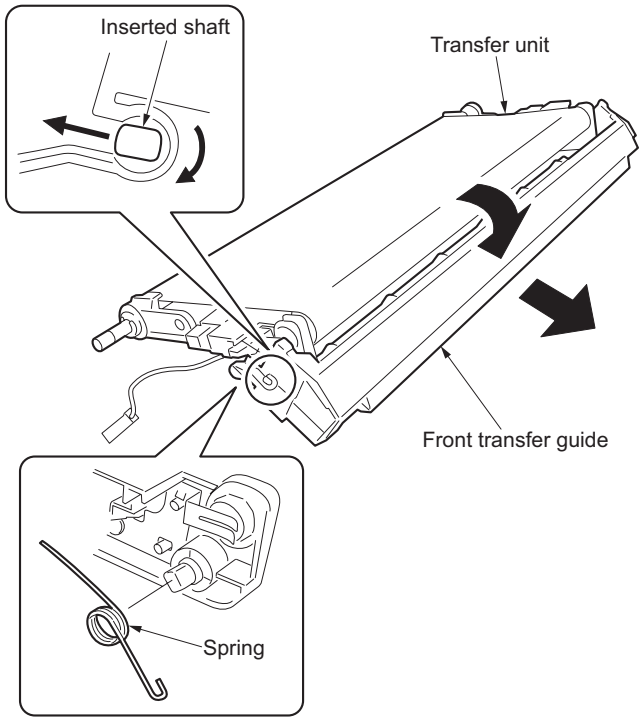


Figure 1-6-117

4. Remove each screw at front and rear transfer unit, and rotate the transfer belt roller as shown in the figure.

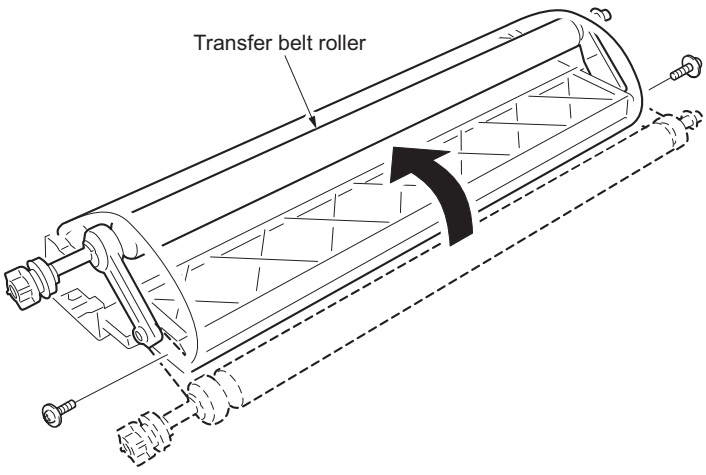


Figure 1-6-118

5. Remove the transfer belt from the transfer unit.

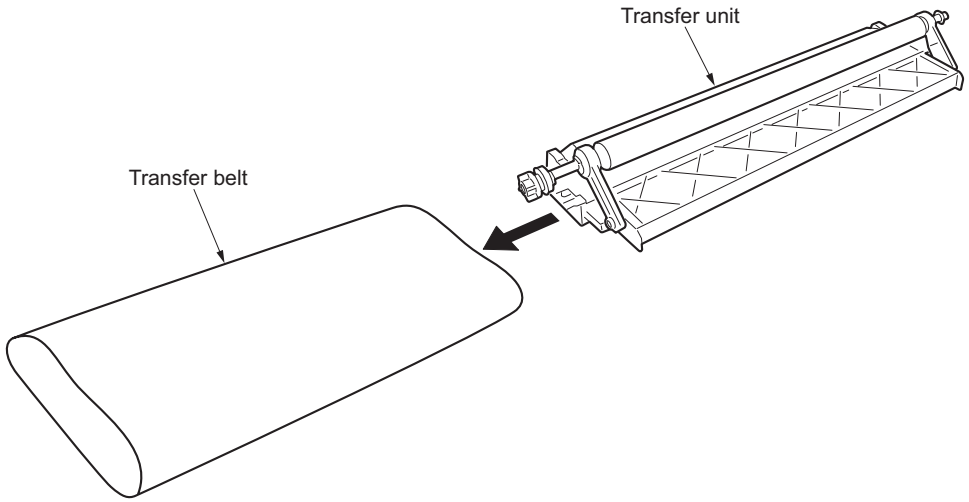


Figure 1-6-119

6. Replace the transfer belt and attach the belt to the transfer unit.

* After installing the transfer belt, rotate the transfer belt roller 2 or 3 times, it turns, and check that the belt does not been stranded to the belt holder front and rear.

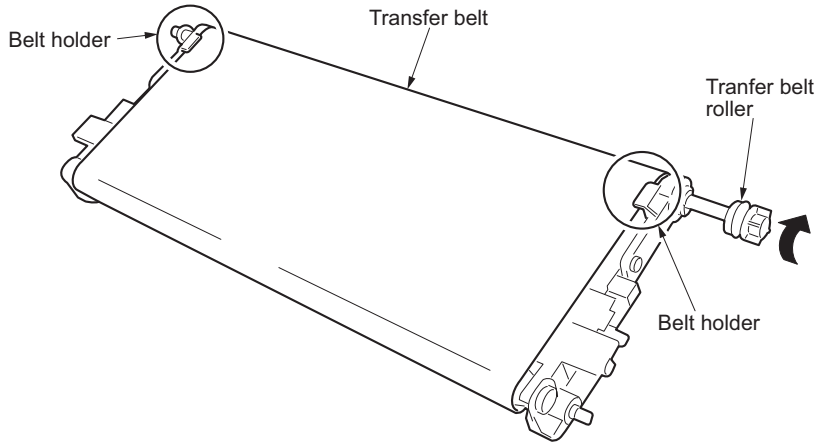


Figure 1-6-120

7. Refit the front transfer guide and spring to the transfer unit.
8. Check if the contact between the transfer ground roller and grounding plate spring is correct.
9. Refit the transfer unit.

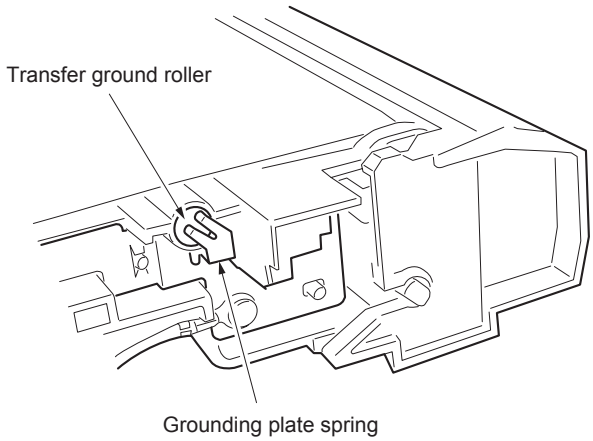


Figure 1-6-121

(3) Detaching and refitting the transfer roller

Follow the procedure below to replace the transfer roller.

Procedure

1. Remove the transfer unit (see page 1-6-61).
2. Remove the transfer belt (see page 1-6-63).
3. Remove the screw of the transfer unit rear and then remove the terminal, spring and pin.

* When refitting the spring, make sure that the wider edge is facing toward the terminal.

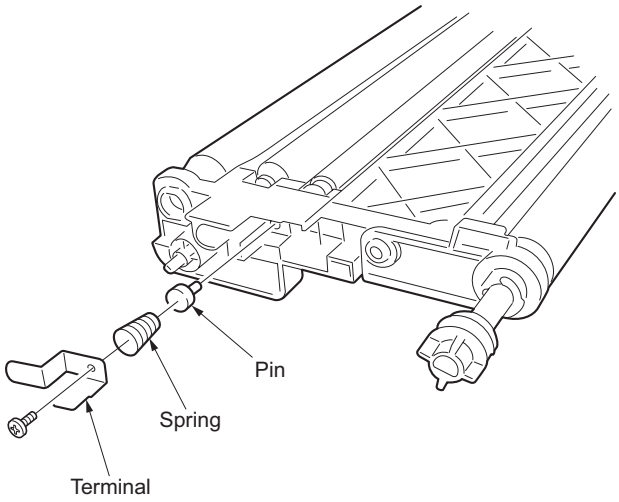


Figure 1-6-122

4. Push up the front and rear transfer roller bearing using the flat-blade screwdriver, and then remove the roller from the transfer unit.
5. Remove the bearings from the both ends of the transfer roller.
6. Replace the transfer roller and attach the roller to the transfer unit.

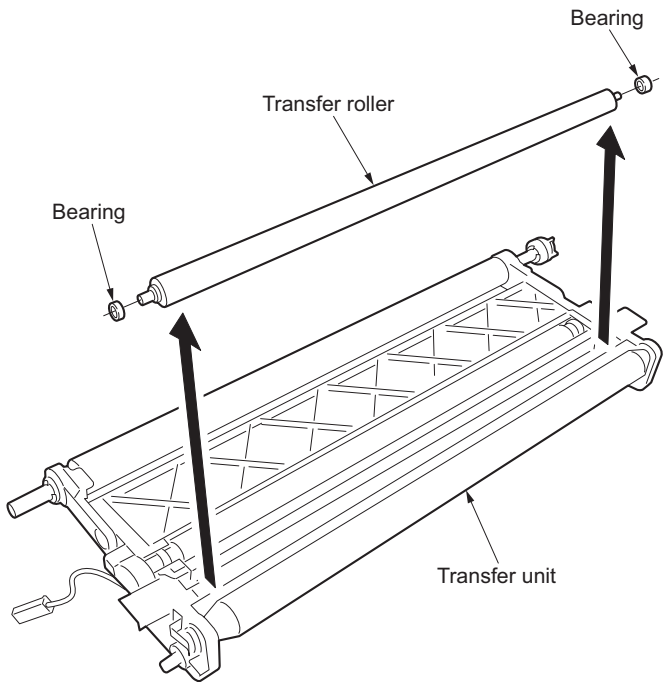


Figure 1-6-123

7. Refit the transfer belt to the transfer unit.
8. Refit the transfer unit.

1-6-8 Cleaning section

(1) Detaching and refitting the cleaning unit

Procedure

1. Open front cover and then remove the toner container.
2. Remove two screws and pull out the image formation unit.
3. Remove the connector of the image formation unit left.
4. Release two gray lock levers of the image formation unit left.
5. Release two white lock levers of the image formation unit upper.

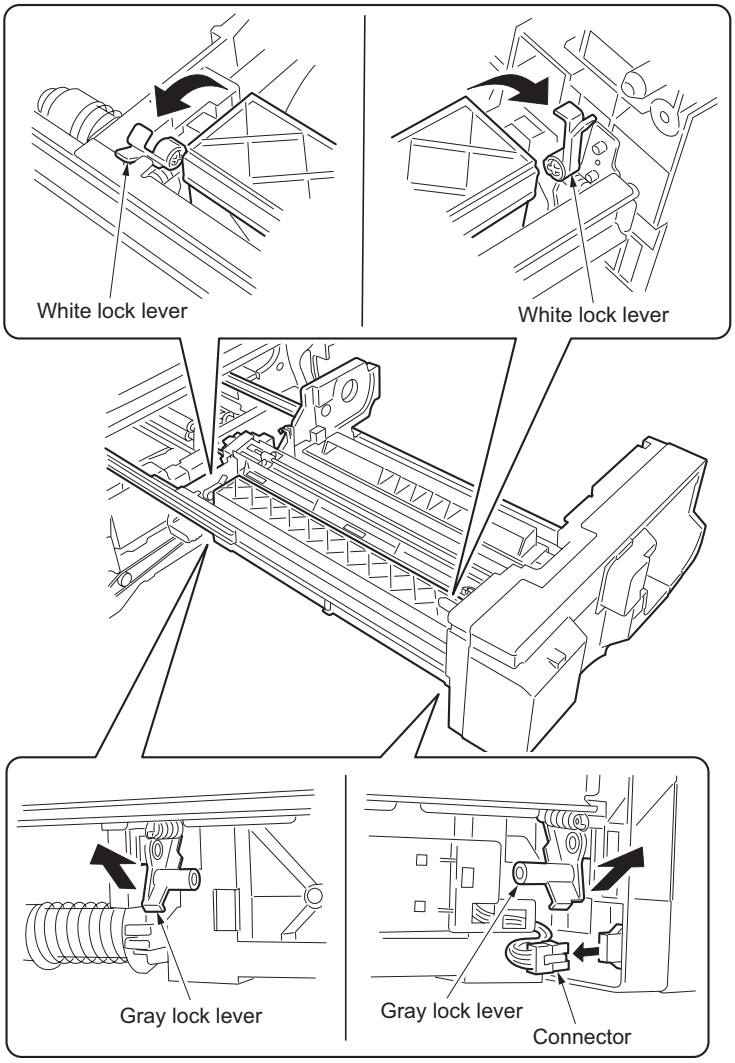


Figure 1-6-124

6. Remove the cleaning unit from the image formation unit.

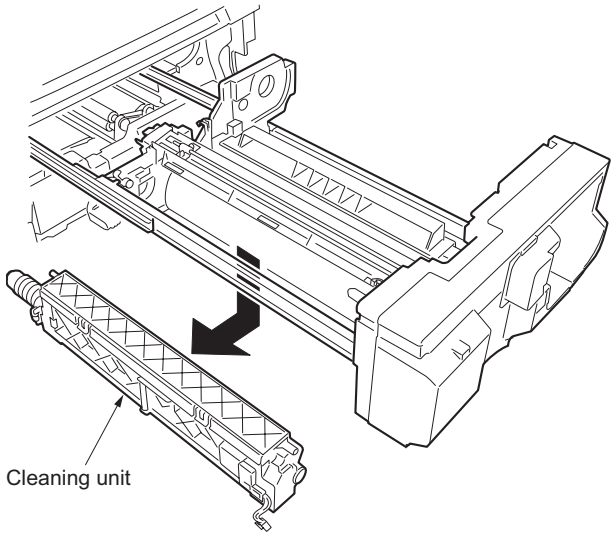


Figure 1-6-125

(2) Detaching and refitting the cleaning blade

Follow the procedure below to replace the cleaning blade.

Procedure

1. Remove the cleaning unit (see page 1-6-66).
2. Release two claws and then remove the upper cleaning cover from the cleaning unit.

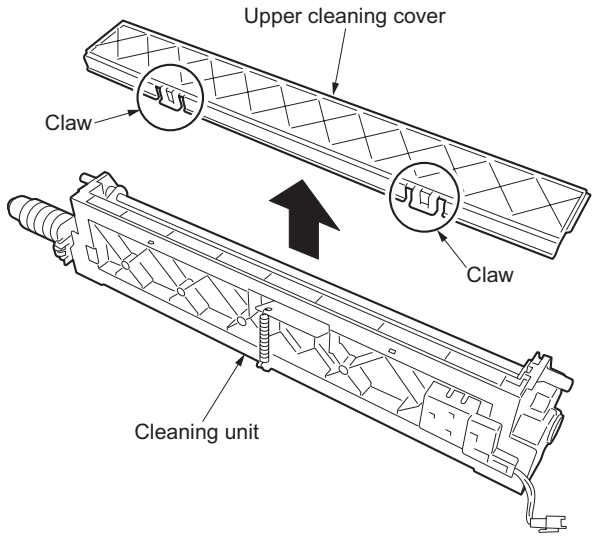


Figure 1-6-126

3. Remove two screws and then remove the cleaning blade from the cleaning unit.

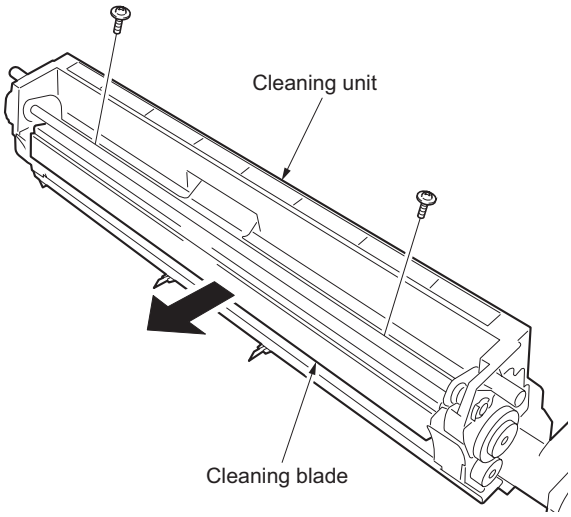


Figure 1-6-127

4. Replace the cleaning blade.
   * When attaching the cleaning blade, adjust two projections.
5. Refit the upper cleaning cover to the cleaning unit.
6. Refit the cleaning unit.

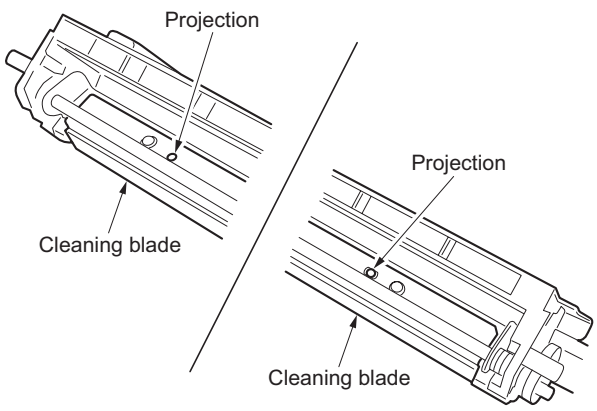


Figure 1-6-128

1-6-9 Charge erasing section

(1) Detaching and refitting the PTC unit

Procedure

1. Open the front cover. Turn lever A2 to left.
2. Remove the inner cover (see page 1-6-59).
3. Remove the connector and pull out the PTC unit.

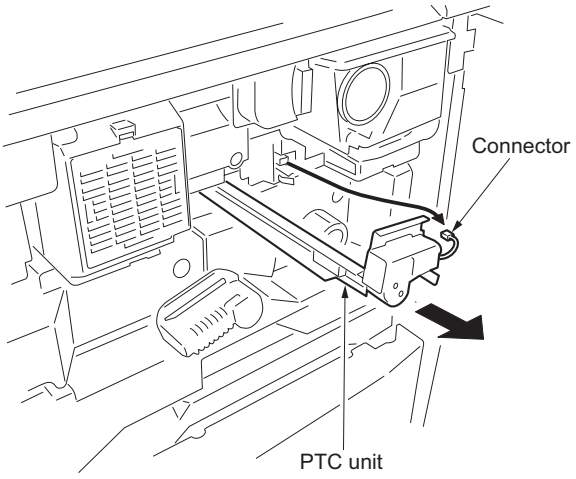


Figure 1-6-129

4. When refitting the PTC unit, fit the cut of the unit onto the guide, and then insert the unit.

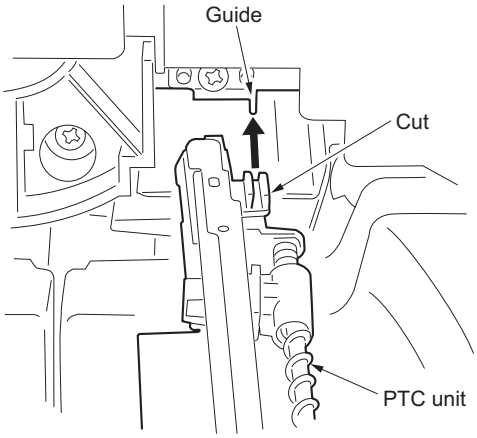


Figure 1-6-130

(2) Detaching and refitting the PTC cleaning pad

Follow the procedure below to replace the PTC cleaning pad.

Procedure

1. Remove the PTC unit.
2. Open the PTC cleaning pad outside and remove the pad from the PTC unit.
3. Replace the PTC cleaning pad and attach the pad to the PTC unit.
4. Refit the PTC unit.

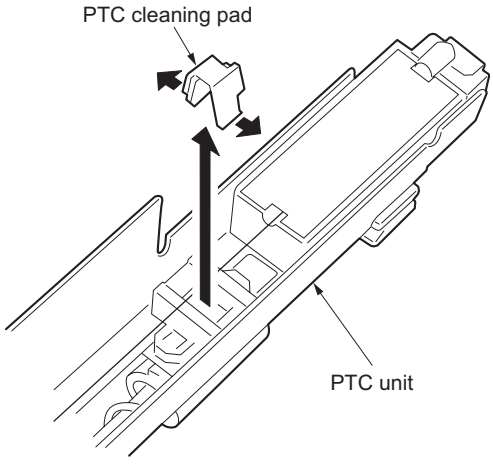


Figure 1-6-131

(3) Detaching and refitting the PTC wire

Follow the procedure below when the charger wire is broken or to be replaced.

Precautions

Use the specified tungsten wire for the PTC wire.
The part of the wire wrapped around the charger spring must not protrude from the PTC housing.
The cut end of the PTC wire must not protrude more than 2 mm from under the charger pin.
Use a clean, undamaged tungsten PTC wire.
Keep the PTC wire taut by stretching the charger spring.
Clean the PTC shield with wet and dry cloth when replacing the PTC wire.
Do not use organic solvents such as alcohol and thinner to clean the PTC shield.

Procedure

1. Remove the PTC unit (see page 1-6-68).
2. Remove the PTC cleaning pad (see page 1-6-68).
3. Remove the front and rear covers from the PTC unit.

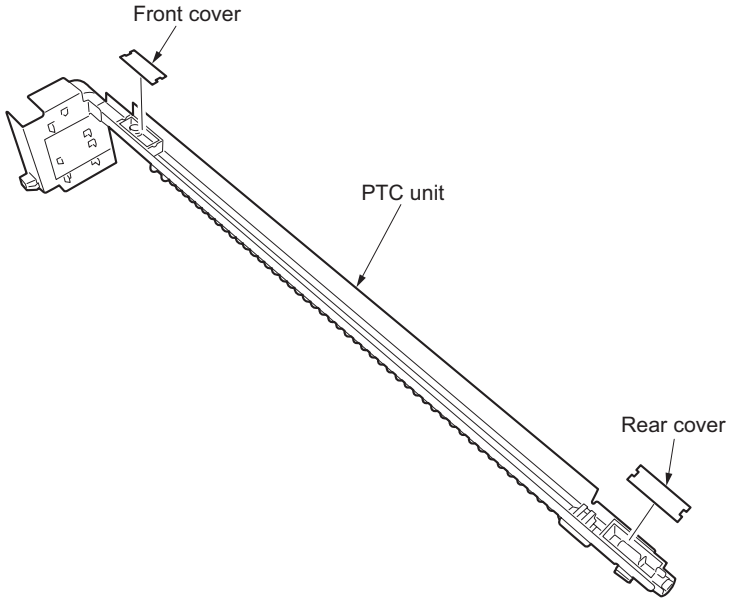


Figure 1-6-132

4. Remove the charger pin and spring, and then remove the PTC wire.
5. Wind the new tungsten wire at 4 and 6 turns around one end of the charger spring and trim the end of the wire.
   * The length of the twists and the cut wire must be less than 2 mm.
6. Hook the other end of the charger spring onto the charger terminal of the rear housing, then pass the wire through the notch of the rear housing.
7. Let the wire through the cut in the front housing and above the charger pin hole.
8. Strain and fix the wire by inserting the charger pin at the position where the tip of the charger spring is within the rectangular frame on the rear housing.
9. Cut off the excess wire under the charger pin so less than 2 mm protrudes.

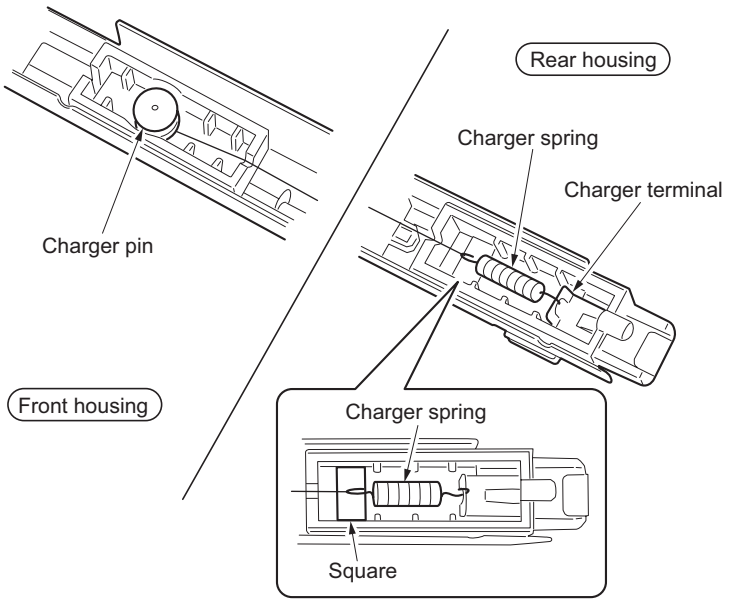


Figure 1-6-133

10. Refit the front and rear covers of PTC unit, PTC cleaning pad to the PTC unit.
11. Refit the PTC unit.

1-6-10 Fuser section

(1) Detaching and refitting the fuser unit

Procedure

1. Open the front cover and pull out the paper conveying unit.
2. Remove the rear transfer guide.
3. Remove the screw from the paper conveying unit front, and then remove the fuser unit retainer.

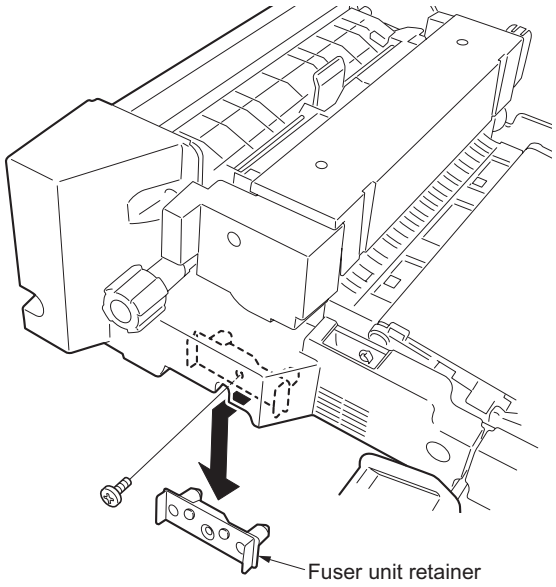


Figure 1-6-134

4. Open the eject section and slide the fuser unit to machine front.
   Remove the fuser unit from the paper conveying unit.

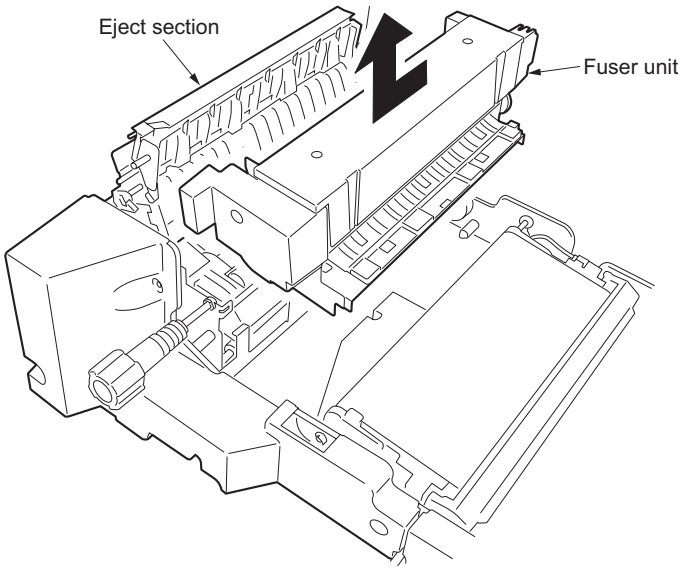


Figure 1-6-135

(2) Detaching and refitting the lower cleaning roller

Follow the procedure below to check or replace the lower cleaning roller.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Remove two screws and then remove the lower cleaning roller unit from the fuser unit.

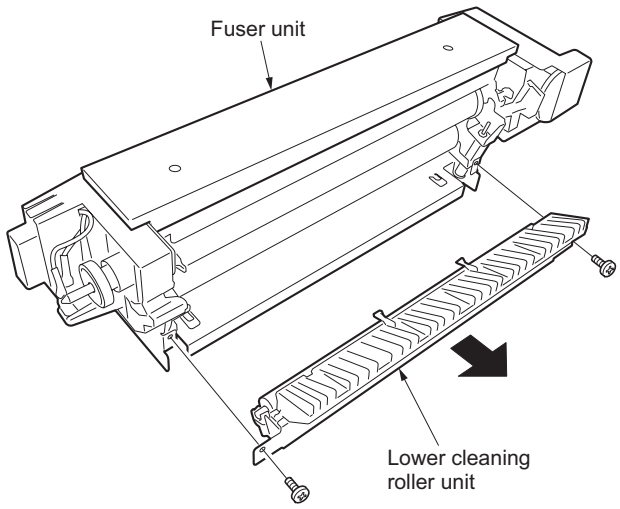


Figure 1-6-136

3. Remove the lower cleaning roller from the lower cleaning roller unit.
4. Check or replace the lower cleaning roller, and refit the roller to the fuser unit.
5. Refit the fuser unit.

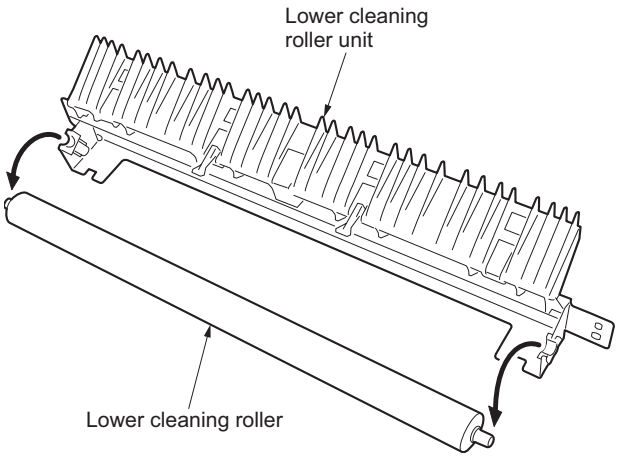


Figure 1-6-137

(3) Detaching and refitting the press roller

Follow the procedure below to replace the press roller.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Remove the lower cleaning roller unit (see page 1-6-71).
3. Turn the nuts of the fuser unit front and rear with the box end wrench and release the fuser pressure.

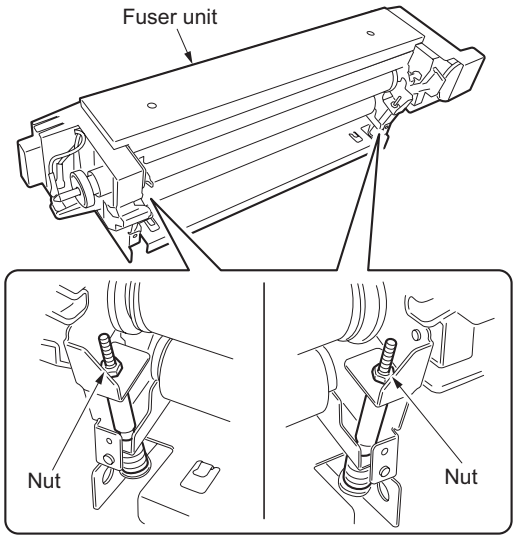


Figure 1-6-138

4. Remove the press roller from the fuser unit.
5. Replace the press roller and attach the roller to the fuser unit.
6. Set the fuser pressure.
7. Refit the fuser unit.

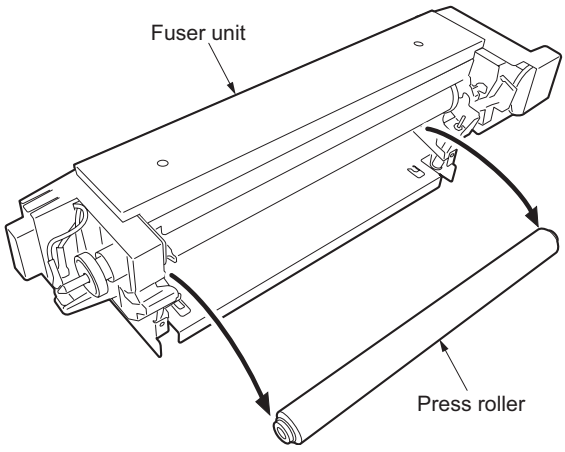


Figure 1-6-139

(4) Detaching and refitting the cleaning felt

Follow the procedure below to replace the cleaning felt.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Remove rear pin and front screw, and then remove the upper fuser cover.

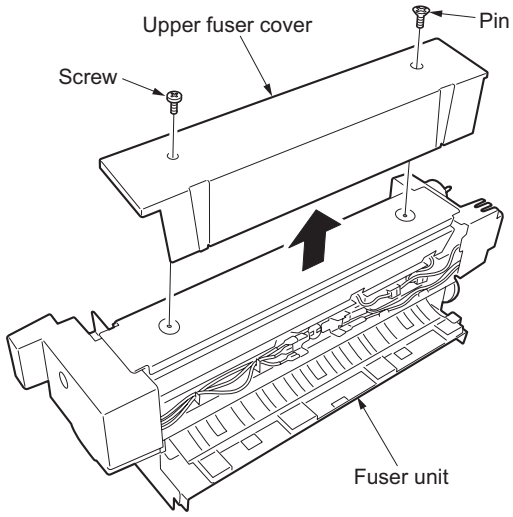


Figure 1-6-140

3. Remove four screws and then remove the upper fuser frame.

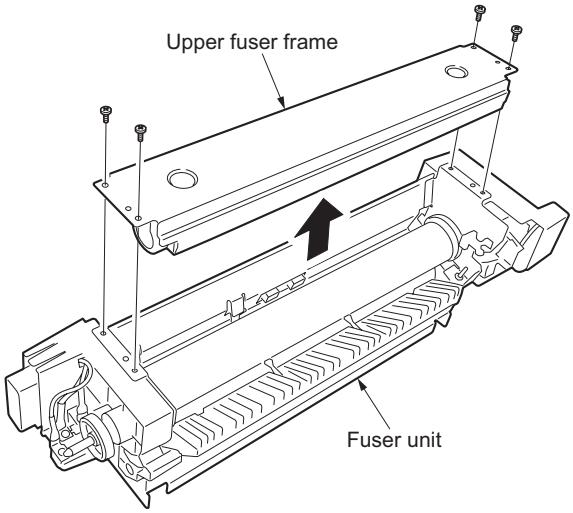


Figure 1-6-141

4. Remove the screw and then remove the fuser cleaning cover from the upper fuser frame.

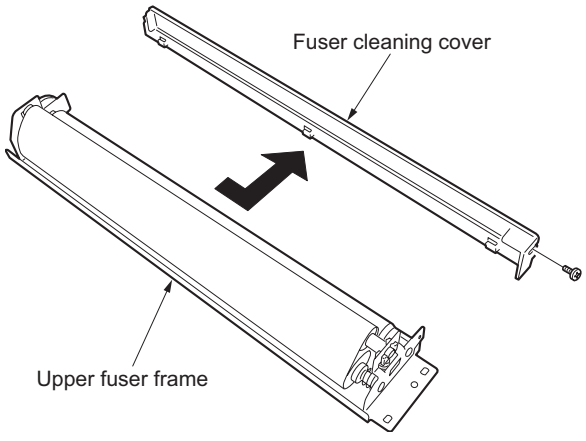


Figure 1-6-142

5. Remove the right roller of the cleaning felt from the upper fuser frame pushing the roller on machine front.
6. Remove the left roller of the cleaning felt from the upper fuser frame pushing the roller on machine front.
7. Replace the cleaning felt and attach the felt to the upper fuser frame.
8. Refit the fuser cleaning cover to the upper fuser frame.
9. Refit the upper fuser frame and upper fuser cover to the fuser unit.
10. Refit the fuser unit.
11. Run maintenance item U909 (Checking/ clearing the fuser web count) to clear the count (see page 1-4-70).

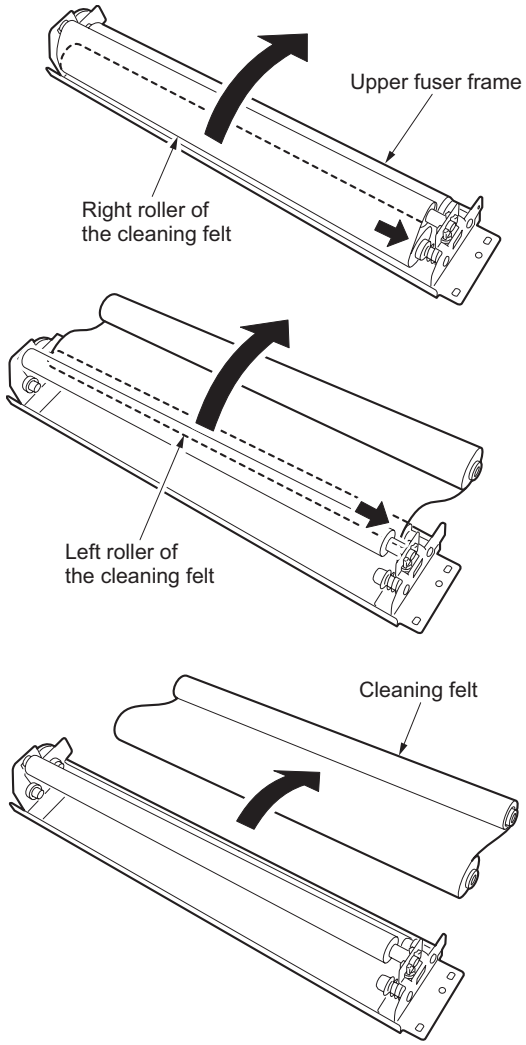


Figure 1-6-143

(5) Detaching and refitting the fuser thermostat

Follow the procedure below to check or replace the fuser thermostat.

Caution
Use the specified thermostat for replacement.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Remove the upper fuser cover (see page 1-6-72).
3. Remove two screws and then remove the fuser thermostat from the fuser unit.
4. Check or replace the fuser thermostat and attach the thermostat to the fuser unit.
5. Refit the upper fuser cover to the fuser unit.
6. Refit the fuser unit.

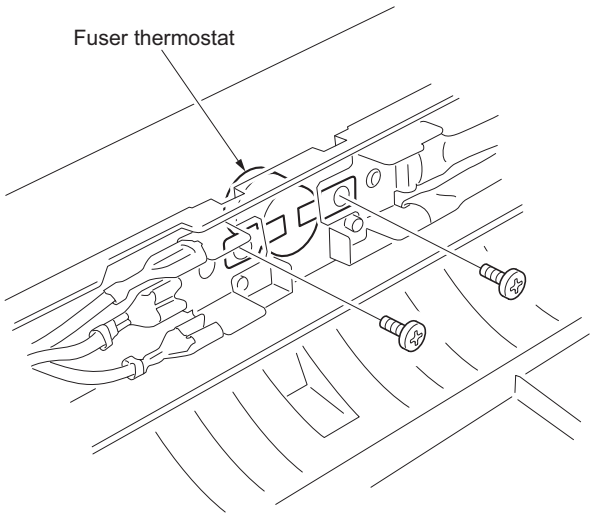


Figure 1-6-144

(6) Detaching and refitting the fuser thermistor

Follow the procedure below to check or replace the fuser thermistor.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Remove the upper fuser cover (see page 1-6-72).
3. Remove each connector and each screw, and then remove the fuser thermistor from the fuser unit.
4. Check or replace the fuser thermistor and refit the thermistor to the fuser unit.
5. Refit the upper fuser cover to the fuser unit.
6. Refit the fuser unit.

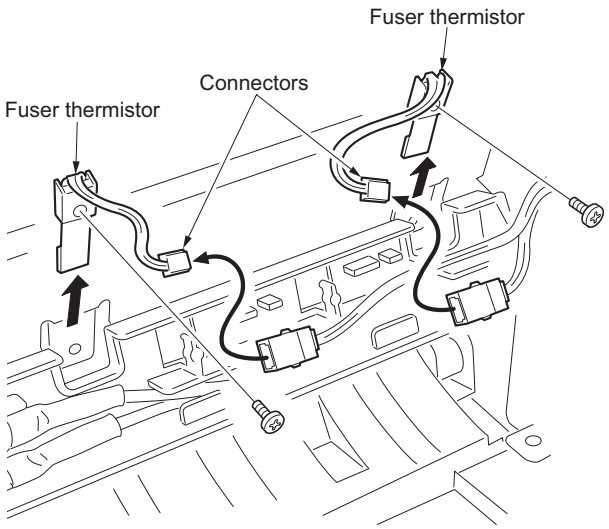


Figure 1-6-145

(7) Detaching and refitting the fuser heater M, S and L

Follow the procedure below to check or replace the fuser heater M, S and L.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Remove the upper fuser cover and upper fuser frame (see page 1-6-72).
3. Remove the screw and then remove the front fuser cover.

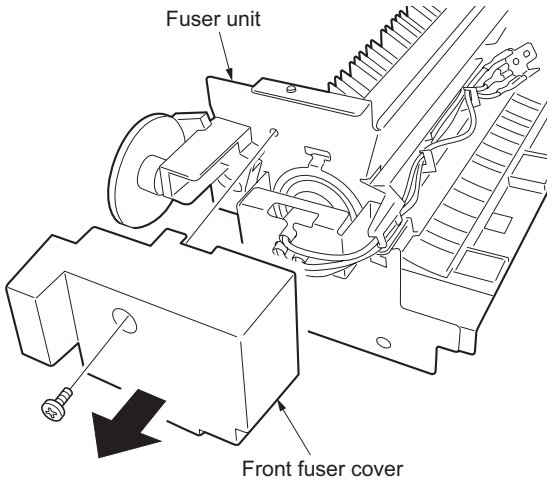


Figure 1-6-146

4. Remove the screw of the fuser thermostat left, and then remove the terminals of the fuser heater M, S and L.

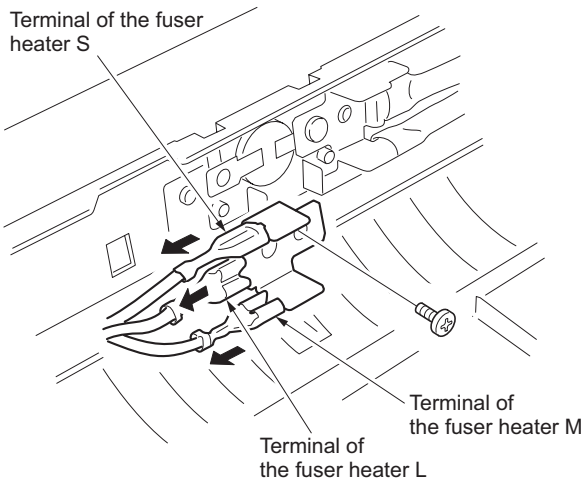


Figure 1-6-147

5. Remove the screw and then remove the front fuser holder.

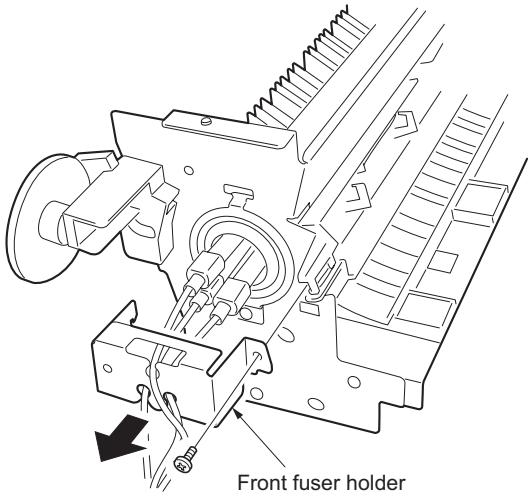


Figure 1-6-148

Detaching the fuser heater M, S and L individually

* When removing the heaters simultaneously, see step 9.

6. Remove each screw of fuser heater M, S and L.

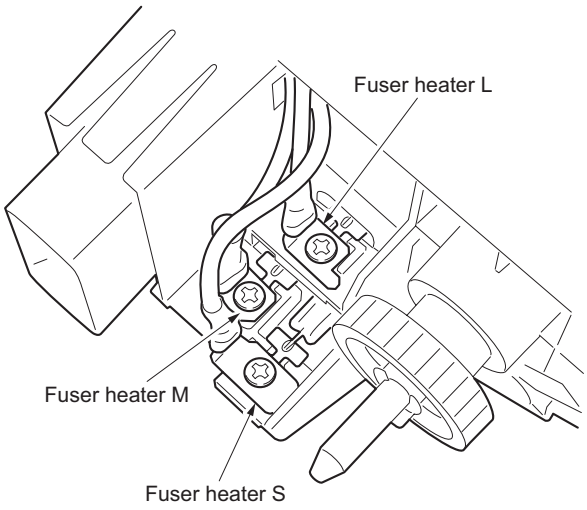


Figure 1-6-149

7. Pull out the fuser heater M, S and L from the fuser unit front individually.

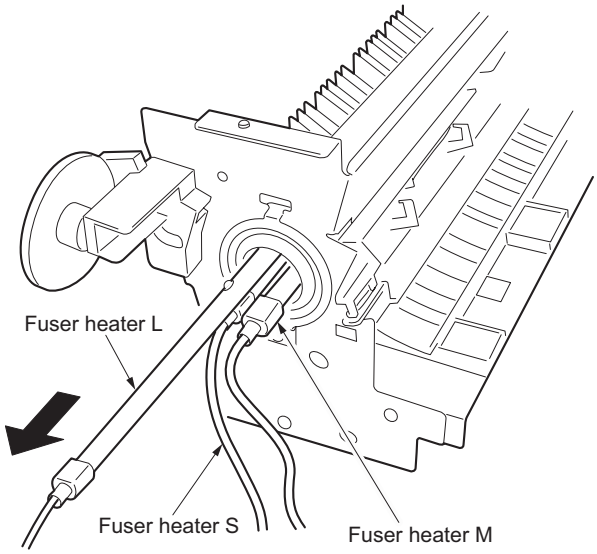


Figure 1-6-150

Detaching the fuser heater M, S and L simultaneously

* When removing the heaters individually, see step 13.

8. Remove two connectors from the fuser thermistor.
9. Remove the screw form the fuser thermostat right.

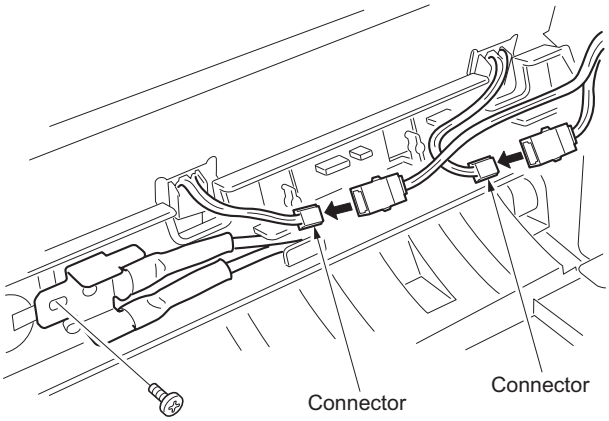


Figure 1-6-151

10. Remove two screws from the rear fuser housing.
11. Pull out the fuser heater M, S and L from the fuser unit rear with the rear fuser housing.

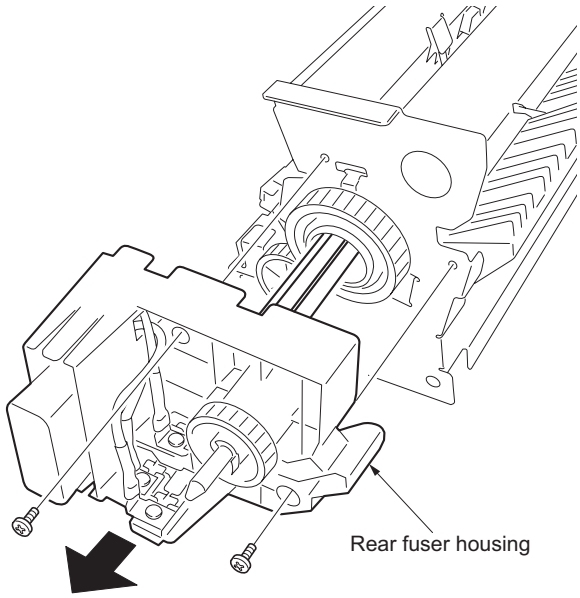


Figure 1-6-152

12. Check or replace the fuser heater M, S and L, and refit the heaters to the fuser unit.

* When replacing the fuser heater M, S and L individually, fit the heaters using the screws directing the solder side of the heater rear terminal on.

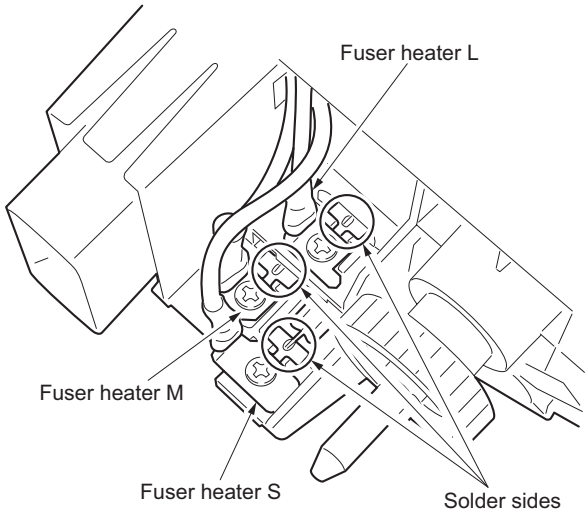


Figure 1-6-153

13. Refit the front fuser holder to the fuser unit and connect the terminals of the fuser heater M, S and L.
14. Refit the front fuser cover, upper fuser frame and upper fuser cover to the fuser unit.
15. Refit the fuser unit.

(8) Detaching and refitting the heat roller

Follow the procedure below to replace the heat roller.

Procedure

1. Remove the fuser unit (see page 1-6-70).
2. Release the fuser pressure.
3. Remove the fuser heater M, S and L with the rear fuser housing (see page 1-6-76).
4. Remove the C ring, heat roller gear and fuser joint gear of the fuser unit rear.

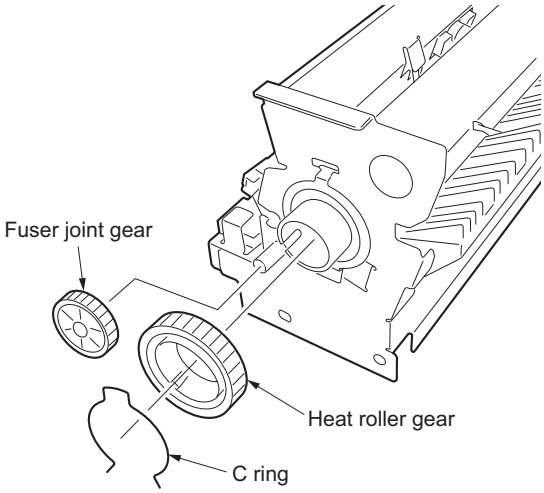


Figure 1-6-154

5. Remove each screw of the fuser unit front and rear, and then remove the heat roller retainer.

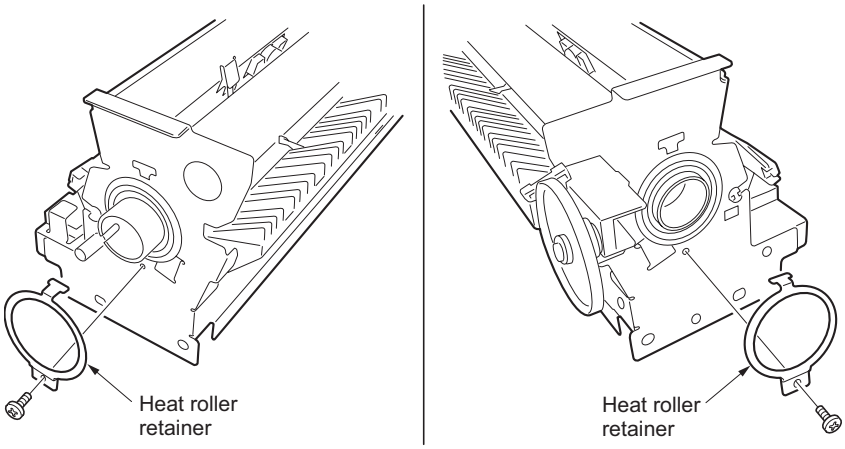


Figure 1-6-155

6. Remove each bearing of the fuser unit front and rear.
7. Remove the heat roller from the fuser unit.
8. Remove each bush from the heat roller front and rear.
9. Replace the heat roller and attach the roller to the fuser unit.
10. Refit the C ring, heat roller gear and fuser joint gear to the fuser unit.
11. Refit the fuser heater M, S and L, and the rear fuser housing to the fuser unit.
12. Set the fuser pressure.
13. Refit the fuser unit.

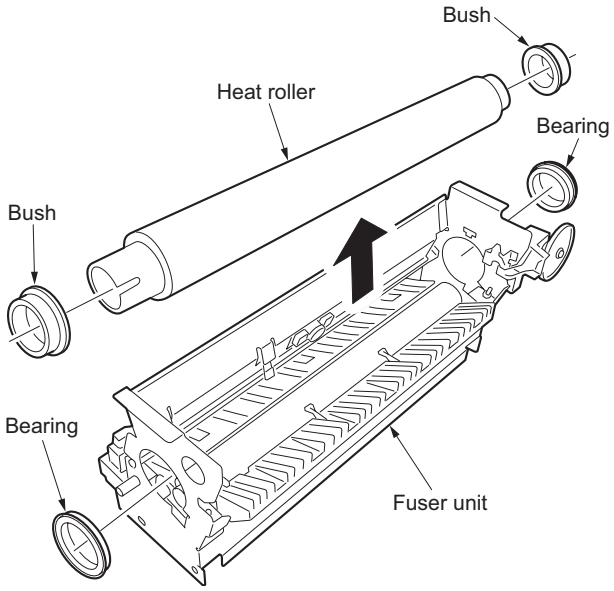


Figure 1-6-156

(9) Detaching and refitting the heat roller separation claws

Follow the procedure below to replace the heat roller separation claws.

Procedure

1. Open the eject section.
2. Remove the screw and then remove the metal fitting from the eject section.
3. Remove two screws and then remove the eject holder from the eject section.

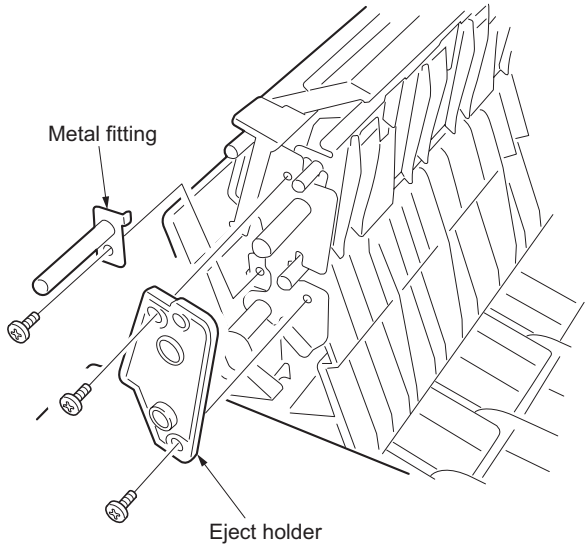


Figure 1-6-157

4. Remove the eject guide from the eject section.

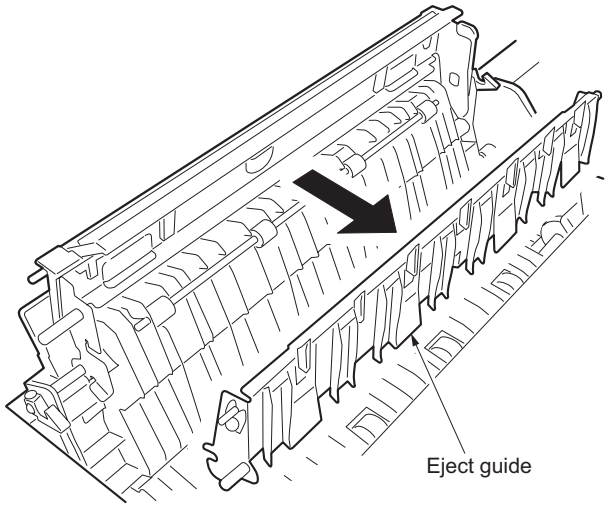


Figure 1-6-158

5. Loosen the screw and then slide the retainer in the direction of arrow.

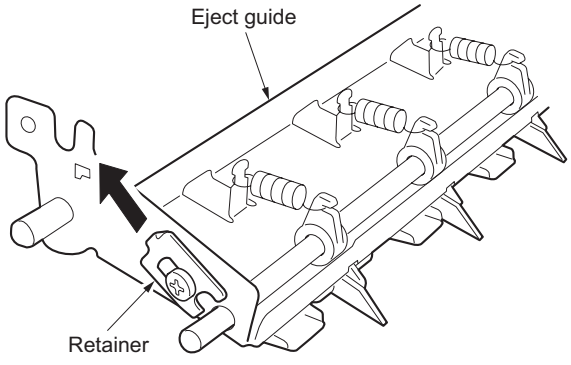


Figure 1-6-159

6. Remove seven springs from the separation claws and then pull out the separation claws shaft from the eject guide.
7. Replace the separation claws and attach the claws to the eject guide.
8. Refit the eject guide.

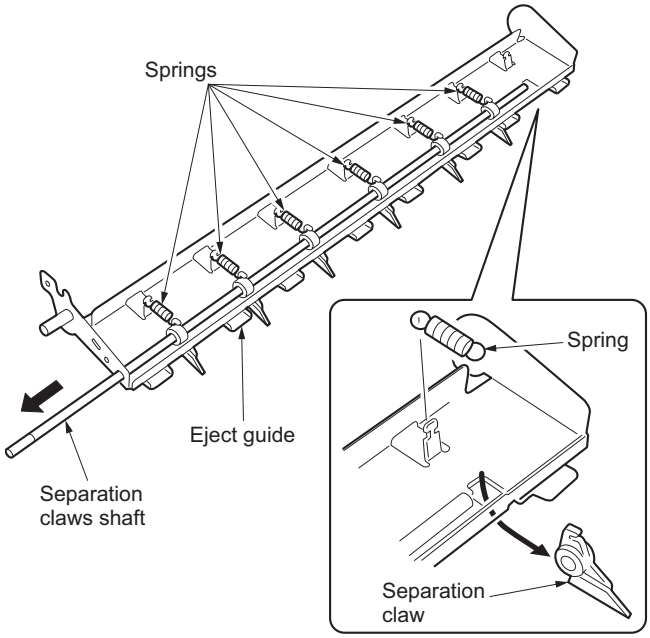


Figure 1-6-160

(10) Detaching and refitting the fuser eject upper roller

Follow the procedure below to replace the fuser eject upper roller.

Procedure

1. Remove the eject guide from the eject section (see page 1-6-80).
2. Remove the fuser eject upper roller from the eject section.
3. Remove the two bearings from the fuser eject upper roller.
4. Replace the fuser eject upper roller and attach the roller to the eject section.
5. Refit the eject guide.

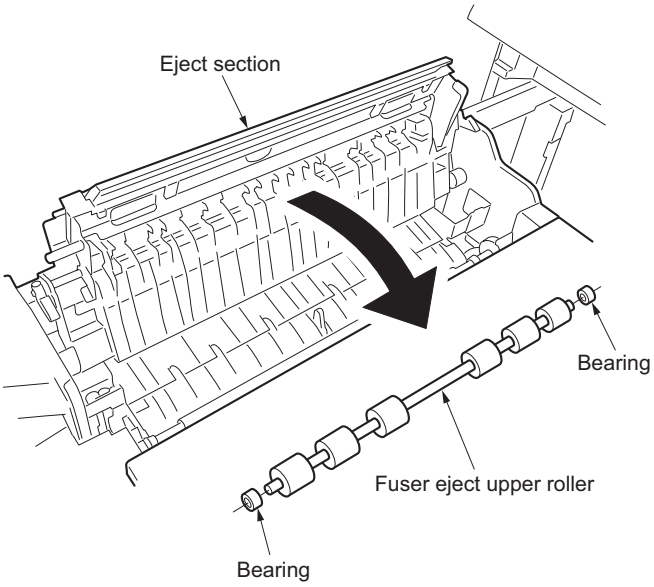


Figure 1-6-160-1

1-6-11 Document processor (DP) section

(1) Detaching and refitting DP

Procedure

1. Release two projections and remove the connector cover.

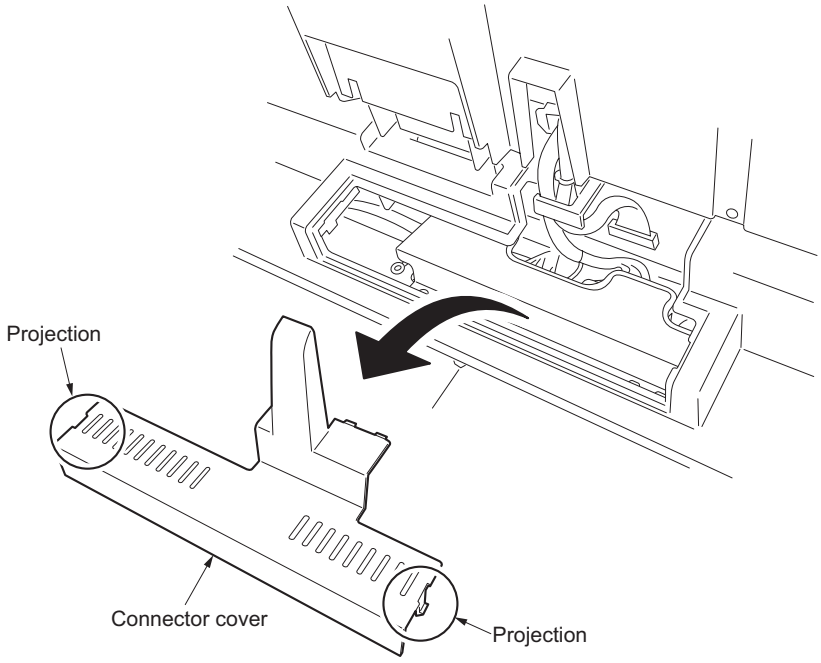


Figure 1-6-161

2. Remove two screws and then remove the connector inner cover.
3. Remove two connectors and ground screw.

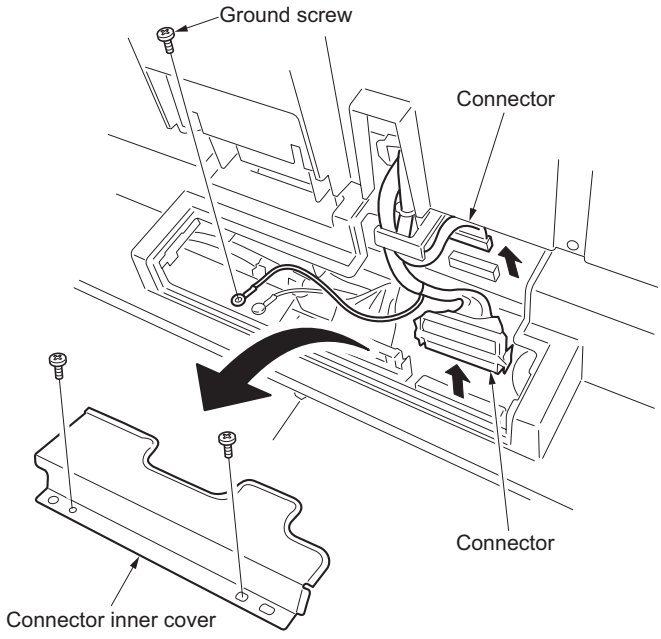


Figure 1-6-161-1

4. Remove the pin of the left hinge and screw of the right hinge.
 * Note the graduation position of the right hinge.
5. Slide the DP to rear and release the hooks of the left and right hinge. Push up the DP and remove the DP from the machine.

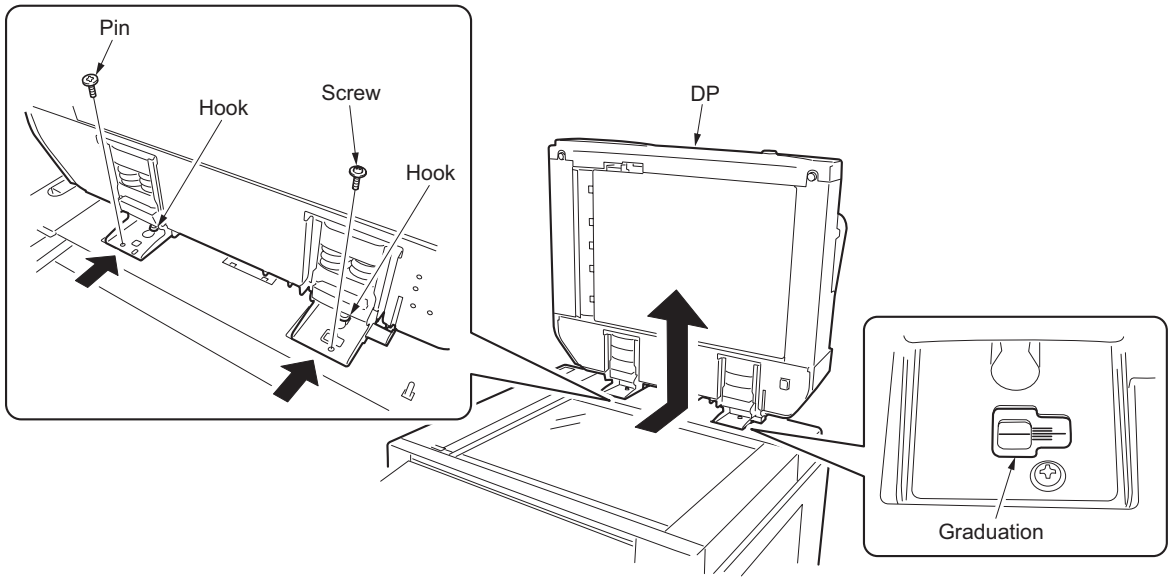


Figure 1-6-162

This page is intentionally left blank.

(2) Detaching and refitting the DP original feed belt, DP forwarding pulley and DP separation roller

Follow the procedure below to clean or replace the DP original feed belt, DP forwarding pulley and DP separation roller.

Procedure

1. Open the document processor top cover.
2. Remove two screws and then remove the upper original feed cover.

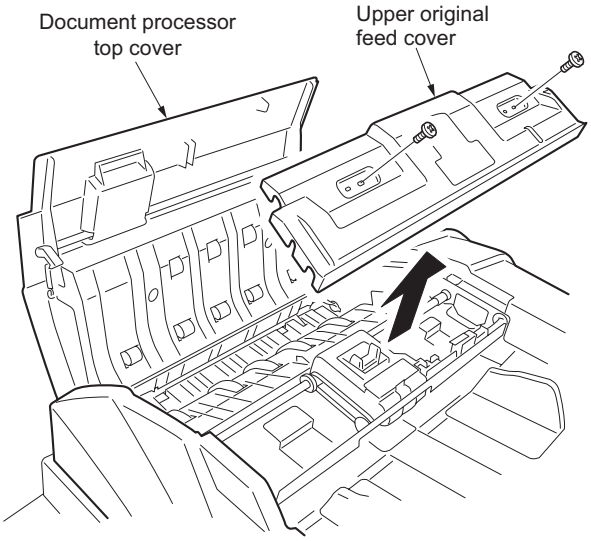


Figure 1-6-163

3. Remove the stop ring of the original feed belt shaft front and move the bush aside to inside.
4. Slide the original feed pulley unit to front and release the rear of the original feed belt shaft. Remove the original feed pulley unit from DP.

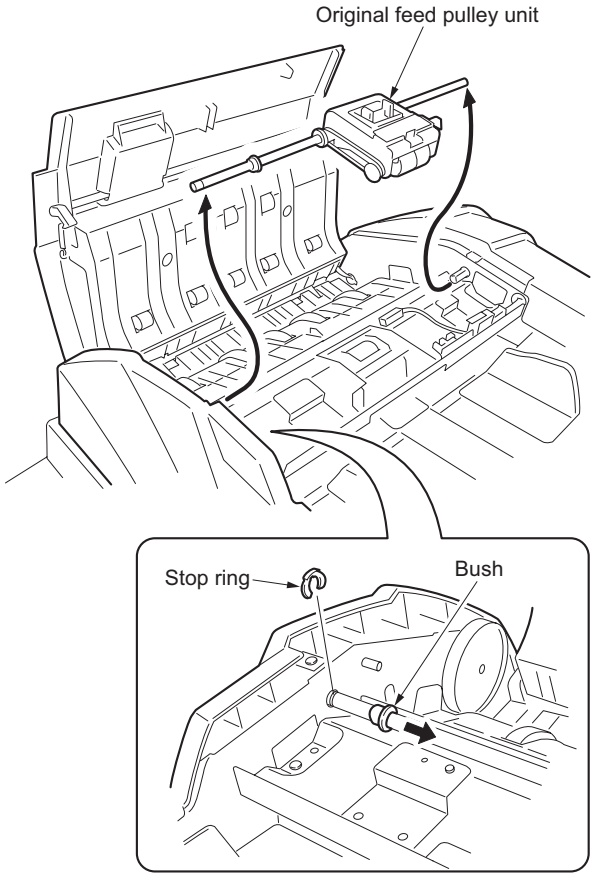


Figure 1-6-164

Detaching the DP original feed belt and DP forwarding pulley

5. Remove the original feed belt unit from the inserted parts of the original feed pulley unit.

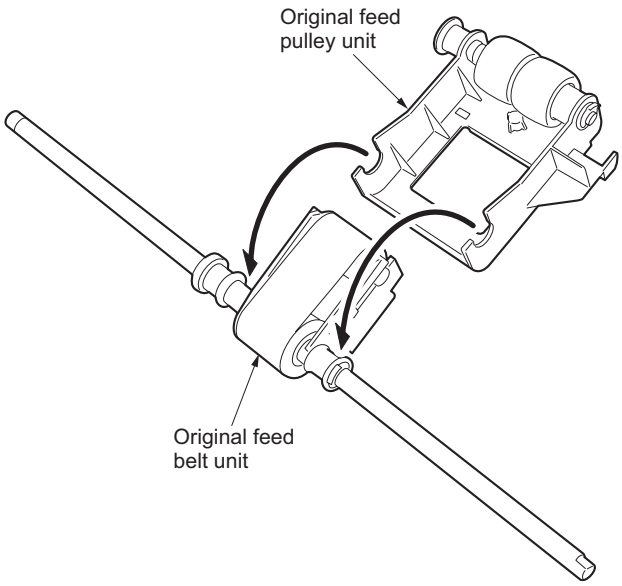


Figure 1-6-165

6. Remove the stop ring, pulley and DP original feed pulley, and then remove the original feed belt shaft from the original feed belt unit.
7. Remove the short original feed belt shaft from the inserted parts of the original feed belt unit and then remove the pulley and DP original feed belt.

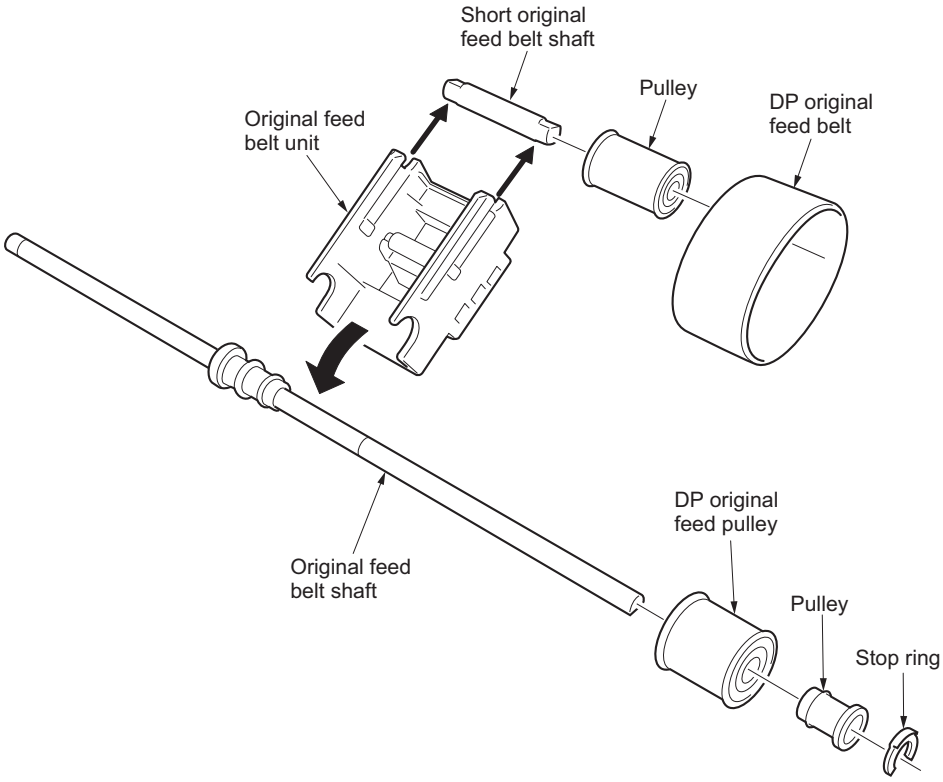


Figure 1-6-166

8. Remove the stop ring and bush from the original feed pulley unit and pull out the forwarding pulley shaft.
9. Remove the DP forwarding pulley from the original feed pulley unit.

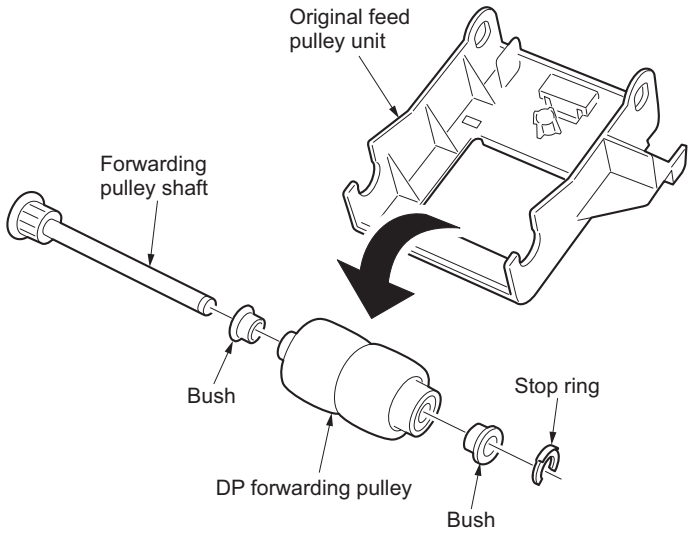


Figure 1-6-167

10. Clean or replace the DP original feed belt and DP forwarding pulley, and attach the belt and pulley to the original feed pulley unit.

* When replacing the DP original feed pulley, make sure that the one-way clutch of the pulley is placed toward the rear side of the machine.

11. Insert the original feed belt unit to the original feed pulley unit.

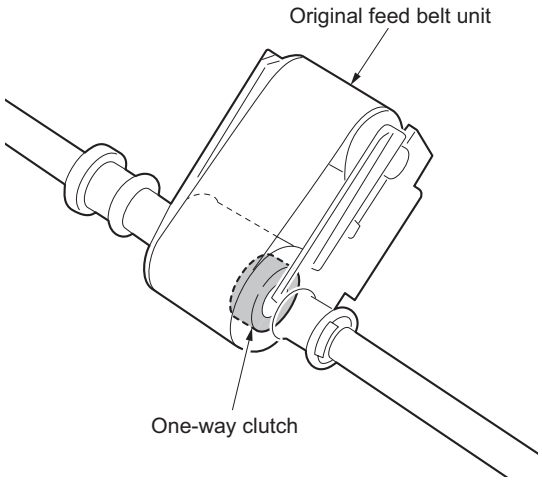


Figure 1-6-168

Detaching the DP separation roller

12. Insert the flat-blade screwdriver to the inserted part of the separation guide and remove the separation guide from the DP.

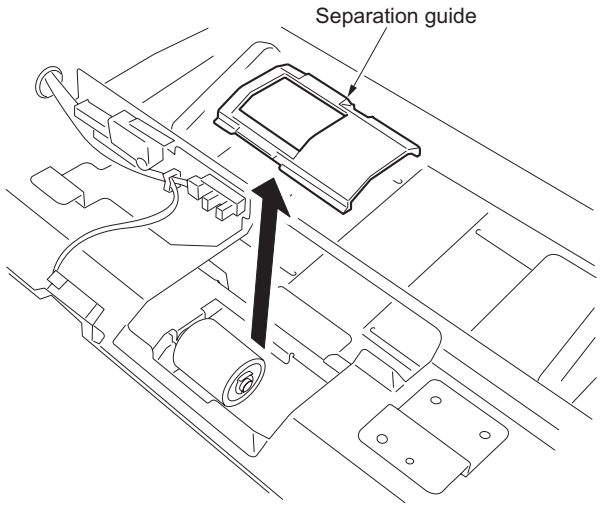


Figure 1-6-169

13. Remove the stop ring and then remove the DP separation roller.
14. Clean or replace the DP separation roller and attach the roller.

* When replacing the DP separation roller, be careful that the projection of torque limiter is firmly into the groove of the DP separation roller.

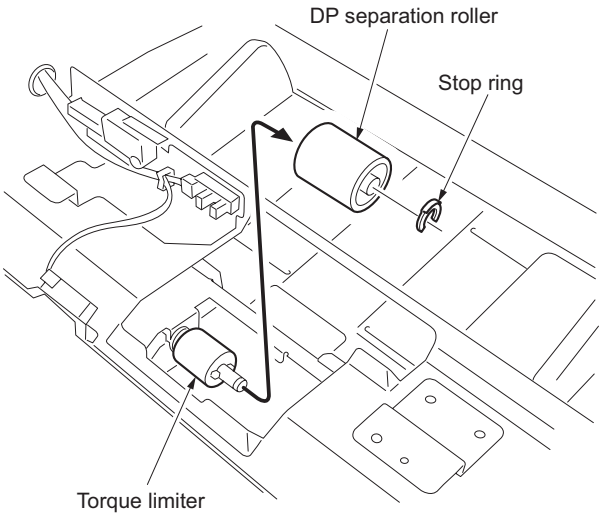


Figure 1-6-170

15. Insert the separation guide to the DP.
16. Refit the original feed pulley unit.
17. Refit the upper original feed cover.

(3) Detaching and refitting CIS

Follow the procedure below to clean or replace CIS.

Procedure

1. Open the document processor top cover.
2. Remove two screws and then remove the original switchback guide.

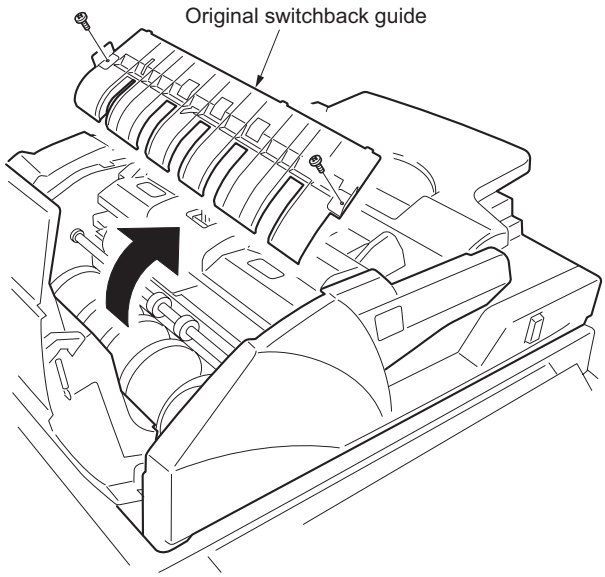


Figure 1-6-171

3. Remove the screw.
4. Release the triangular mark inserted part using the flat-blade screwdriver and remove the DP front cover.

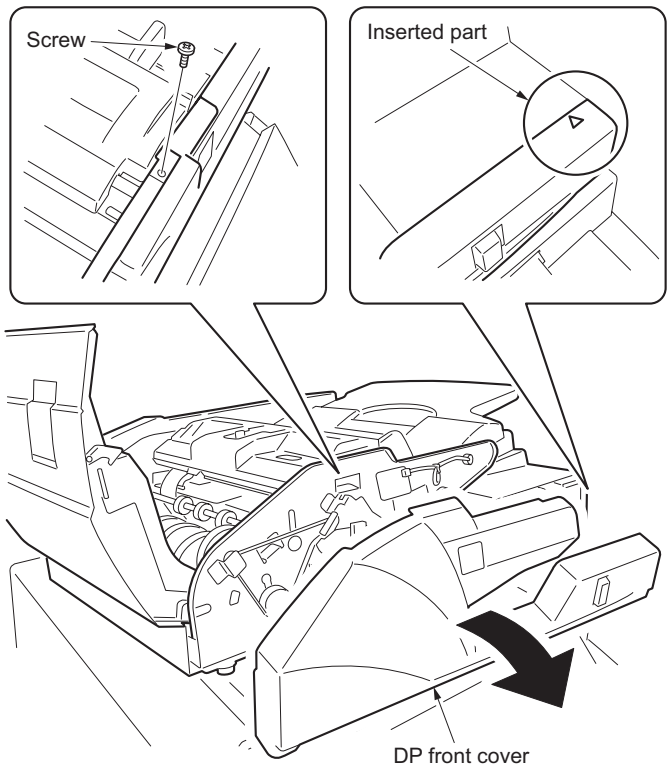


Figure 1-6-172

5. Remove the CIS SHD PWB and flexible flat cable from CIS.

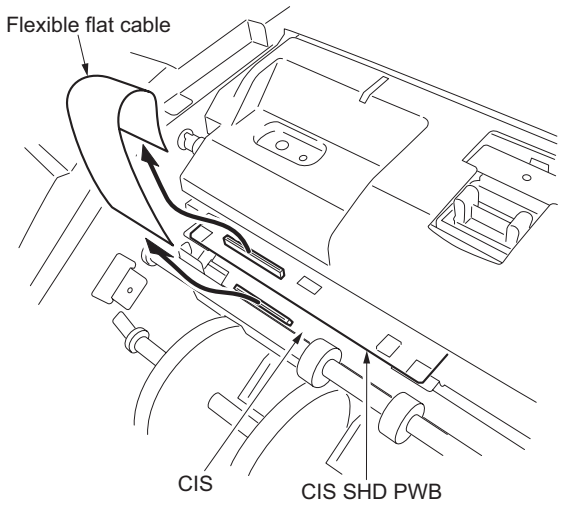


Figure 1-6-173

6. Remove the connector and two screws and pull out CIS from DP.
   Note the position of the graduation of the retainer.
7. Clean or replace CIS.

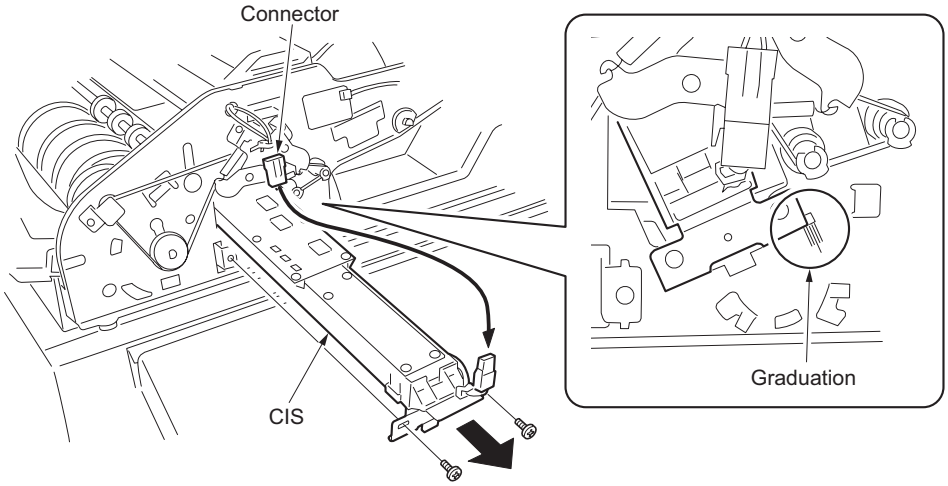


Figure 1-6-174

8. Connect one end of the flexible flat cable to the CIS.

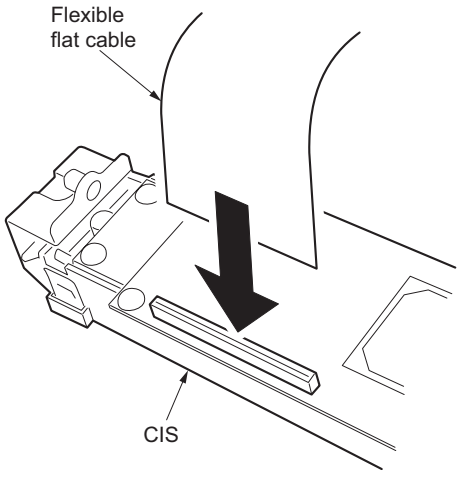


Figure 1-6-175

9. Insert the CIS to the DP.
   * Pass the flexible flat cable through between the roller and the frame as shown in the figure.

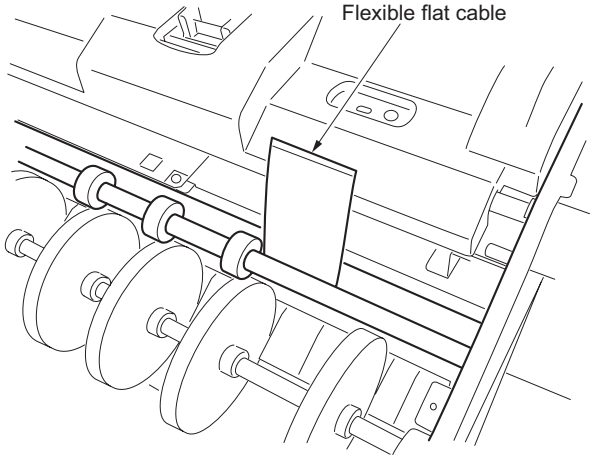


Figure 1-6-176

10. Connect other end of the flexible flat cable to the CIS SHD PWB.

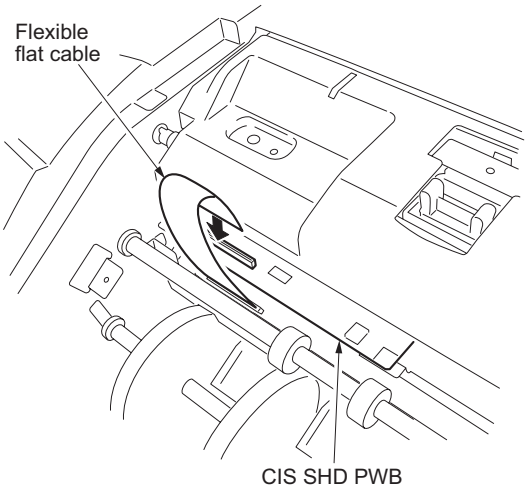


Figure 1-6-177

11. Insert the flexible flat cable between CIS SHD PWB and guide.

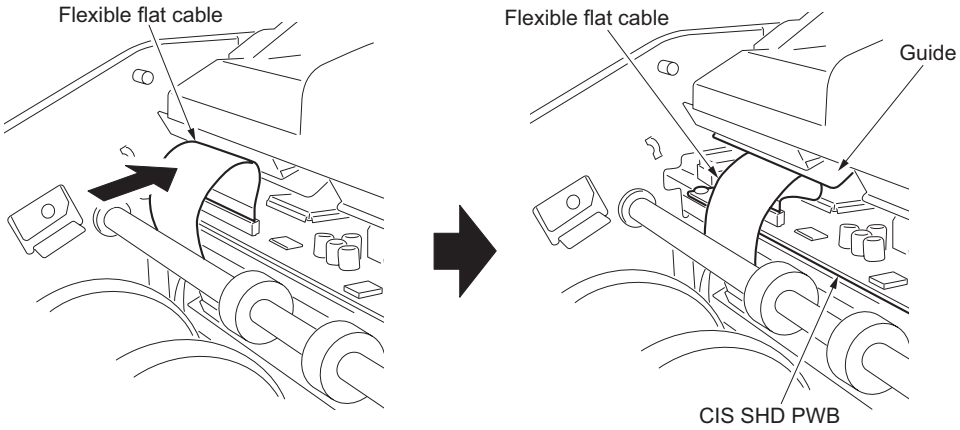


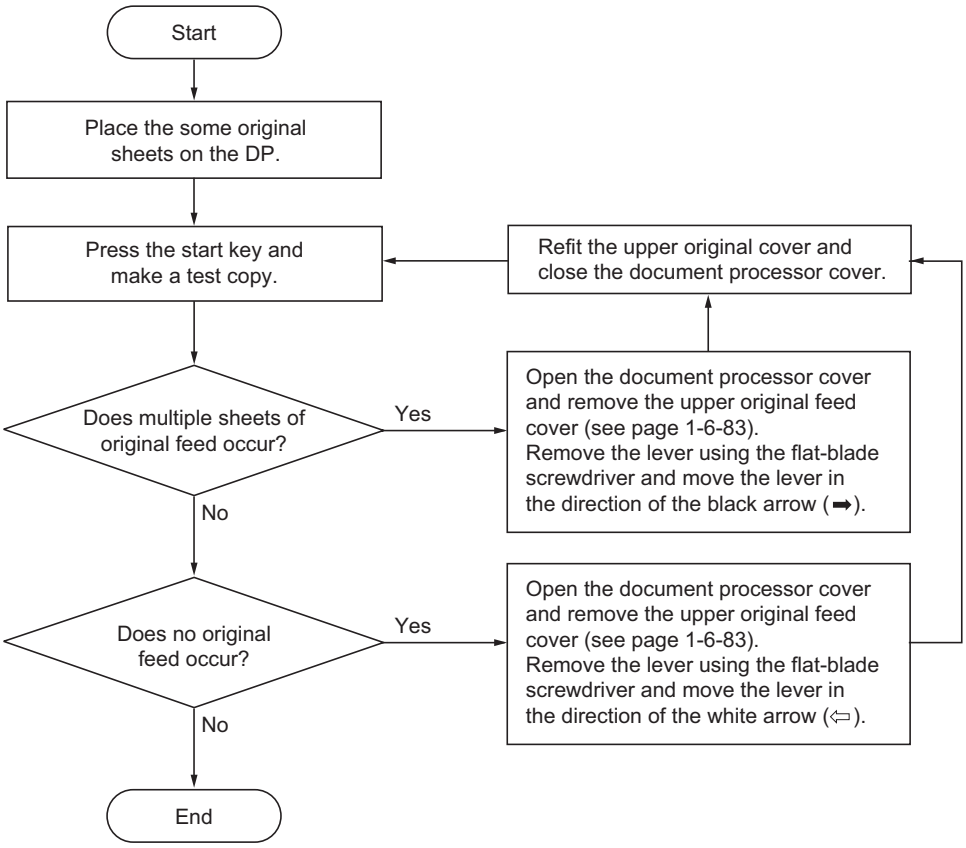
Figure 1-6-178

12. Refit CIS using two screws, adjusting to the installed position of the graduation of the retainer.
13. Connect the connector.
14. Refit the DP front cover and original switchback guide to DP.

(4) Adjusting the tension of original feed belt

Perform the following adjustment if no original feed or multiple sheets of original occurs for feeding from DP.

Procedure


Start
Place the some original sheets on the DP.
Press the start key and make a test copy.
Refit the upper original cover and close the document processor cover.
Does multiple sheets of original feed occur?
Yes
Open the document processor cover and remove the upper original feed cover (see page 1-6-83). Remove the lever using the flat-blade screwdriver and move the lever in the direction of the black arrow (➡).
No
Does no original feed occur?
Yes
Open the document processor cover and remove the upper original feed cover (see page 1-6-83). Remove the lever using the flat-blade screwdriver and move the lever in the direction of the white arrow (⇦).
No
End

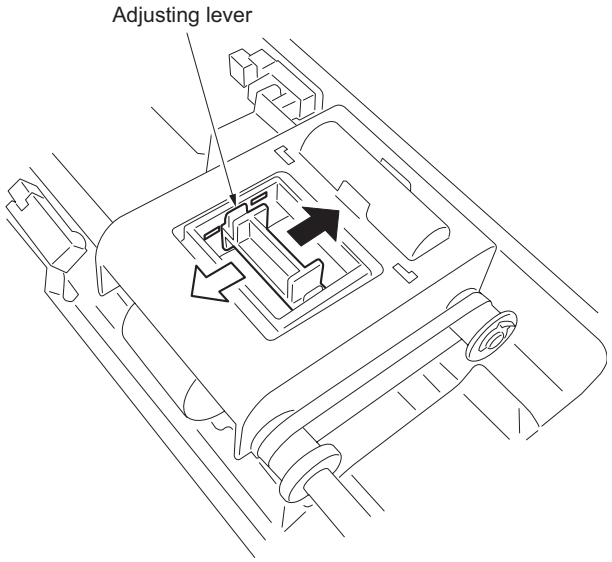
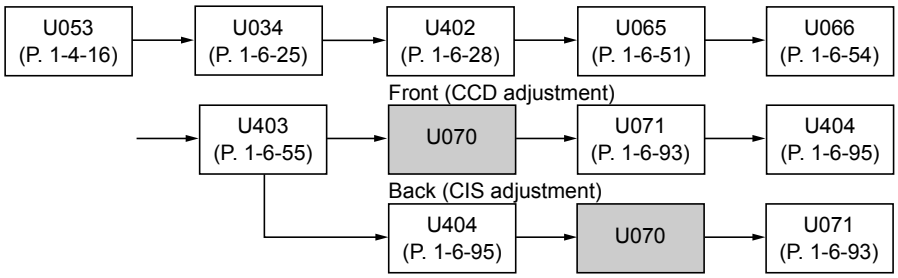


Figure 1-6-179

(5) Adjusting the DP magnification

Adjust magnification in the auxiliary scanning direction if magnification is incorrect when the document processor is used.

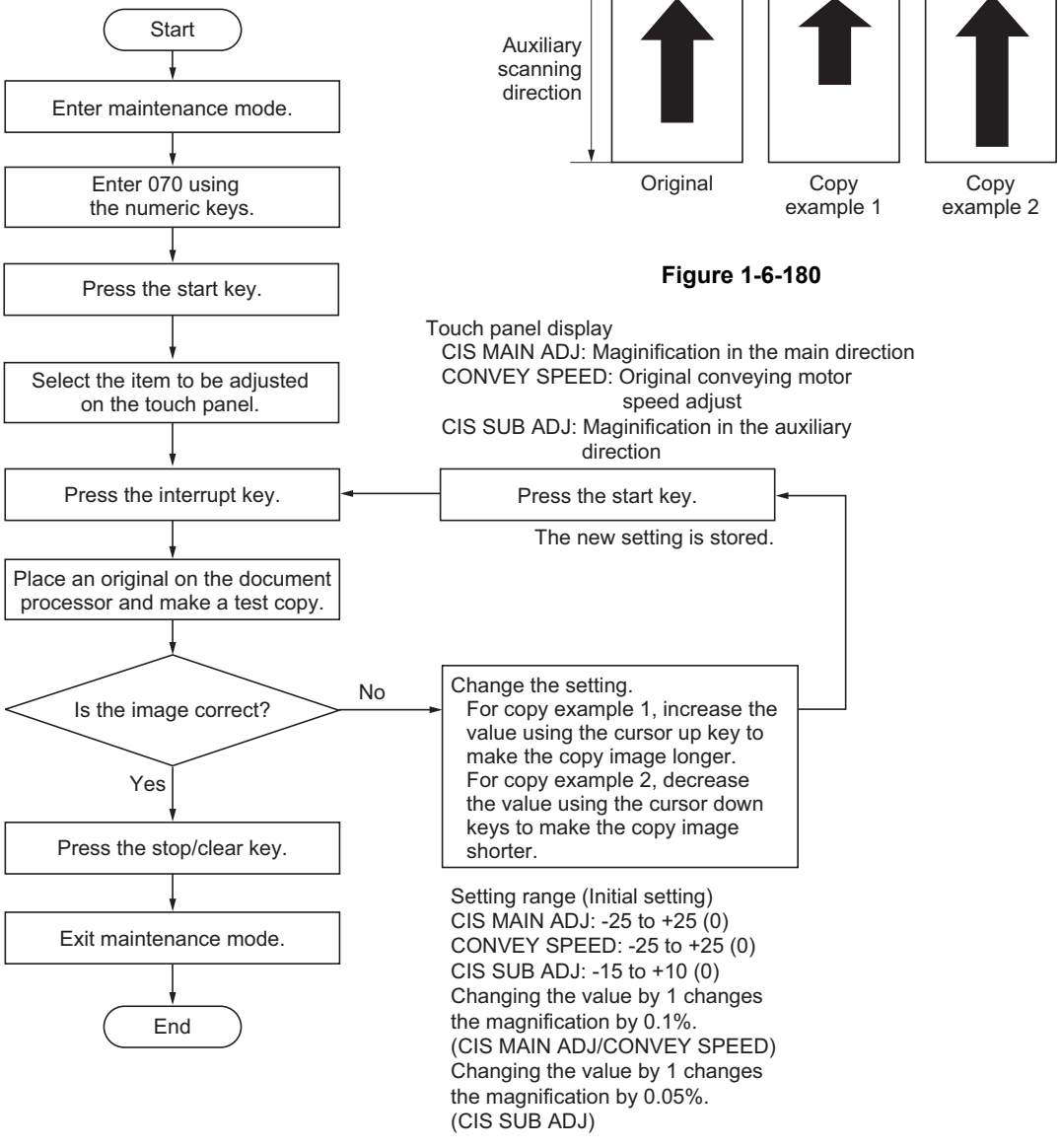
.



<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>


Start
Enter maintenance mode.
Enter 070 using the numeric keys.
Press the start key.
Select the item to be adjusted on the touch panel.
Press the interrupt key.
Place an original on the document processor and make a test copy.
Is the image correct?
No
Yes
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
CIS MAIN ADJ: Maginification in the main direction
CONVEY SPEED: Original conveying motor speed adjust
CIS SUB ADJ: Maginification in the auxiliary direction
Press the start key.
The new setting is stored.
Change the setting.
For copy example 1, increase the value using the cursor up key to make the copy image longer.
For copy example 2, decrease the value using the cursor down keys to make the copy image shorter.
Setting range (Initial setting)
CIS MAIN ADJ: -25 to +25 (0)
CONVEY SPEED: -25 to +25 (0)
CIS SUB ADJ: -15 to +10 (0)
Changing the value by 1 changes the magnification by 0.1%.
(CIS MAIN ADJ/CONVEY SPEED)
Changing the value by 1 changes the magnification by 0.05%.
(CIS SUB ADJ)

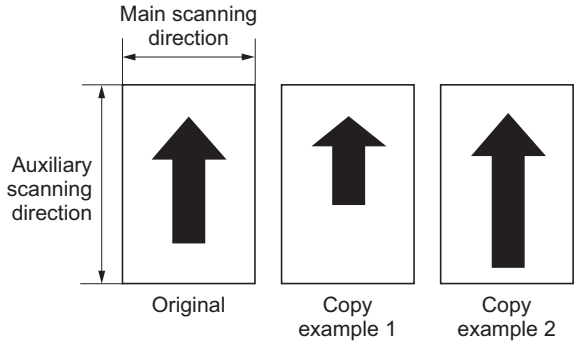
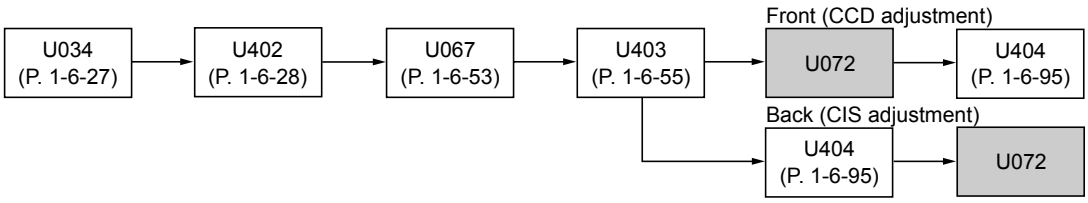


Figure 1-6-180

(6) Adjusting the DP center line

Perform the following adjustment if there is a regular error between the centers of the original and the copy image.



<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>

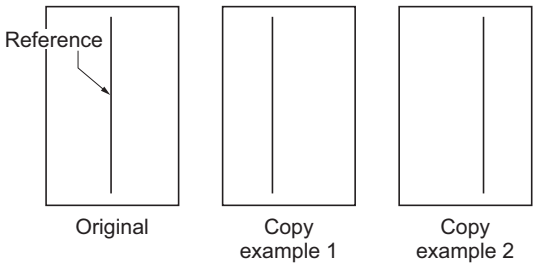
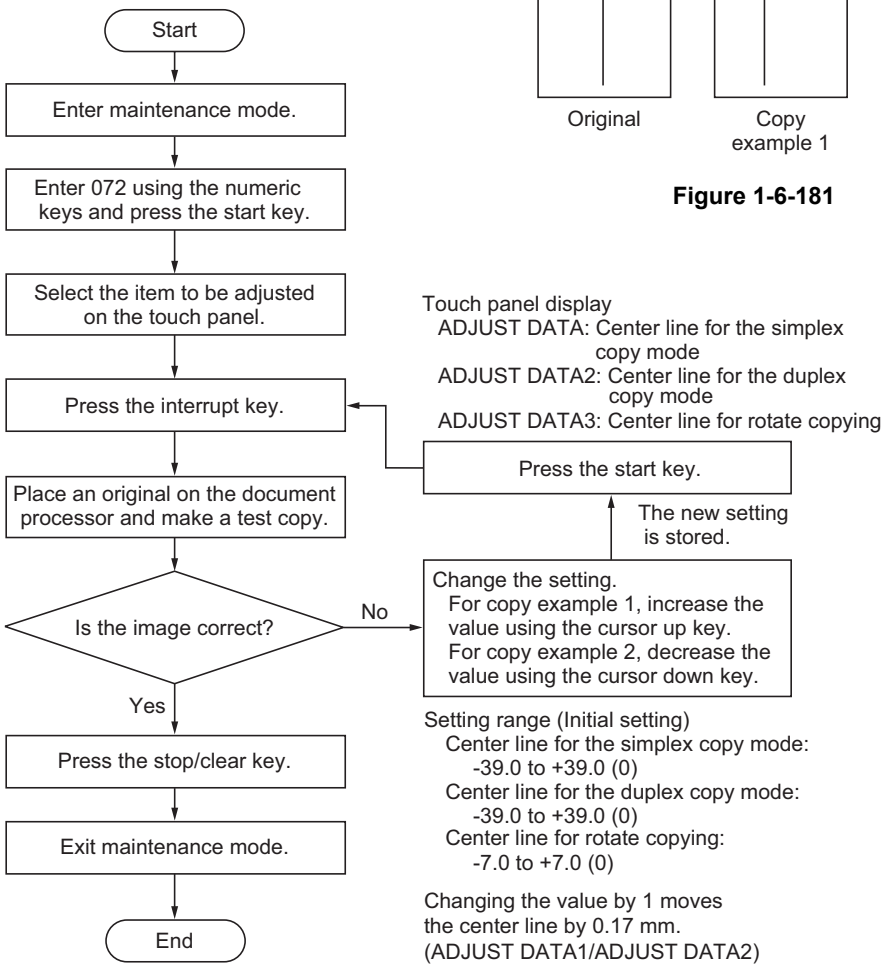


Figure 1-6-181


Start
Enter maintenance mode.
Enter 072 using the numeric keys and press the start key.
Select the item to be adjusted on the touch panel.
Press the interrupt key.
Place an original on the document processor and make a test copy.
Is the image correct?
No
Yes
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
ADJUST DATA: Center line for the simplex copy mode
ADJUST DATA2: Center line for the duplex copy mode
ADJUST DATA3: Center line for rotate copying
Press the start key.
The new setting is stored.
Change the setting.
For copy example 1, increase the value using the cursor up key.
For copy example 2, decrease the value using the cursor down key.

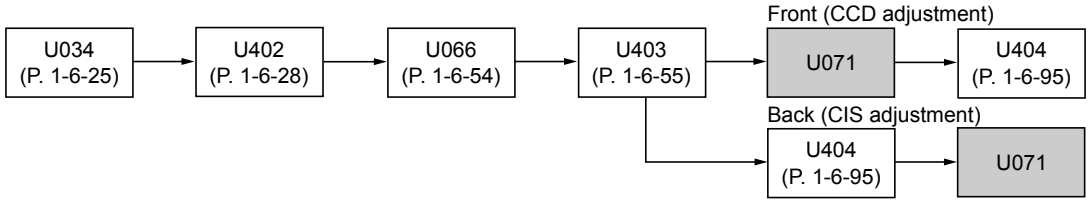
Setting range (Initial setting)
- Center line for the simplex copy mode: -39.0 to +39.0 (0)
- Center line for the duplex copy mode: -39.0 to +39.0 (0)
- Center line for rotate copying: -7.0 to +7.0 (0)

Changing the value by 1 moves the center line by 0.17 mm. (ADJUST DATA1/ADJUST DATA2)
Changing the value by 1 moves the center line by 0.084 mm. (ADJUST DATA3)

After performing adjustment of U071 (ADJUST DATA3) and U072 (ADJUST DATA2), adjust U071 (ADJUST DATA5) and U072 (ADJUST DATA3).

(7) Adjusting the scanning start position when the DP is used

Perform the following adjustment if there is a regular error between the leading or trailing edges of the original and the copy image.



<Caution>
Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

(7-1)Adjusting the leading edge registration

<Procedure>

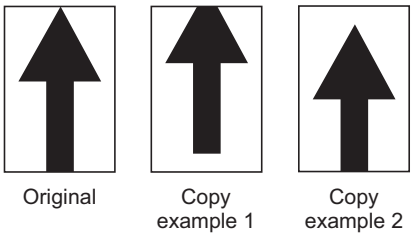
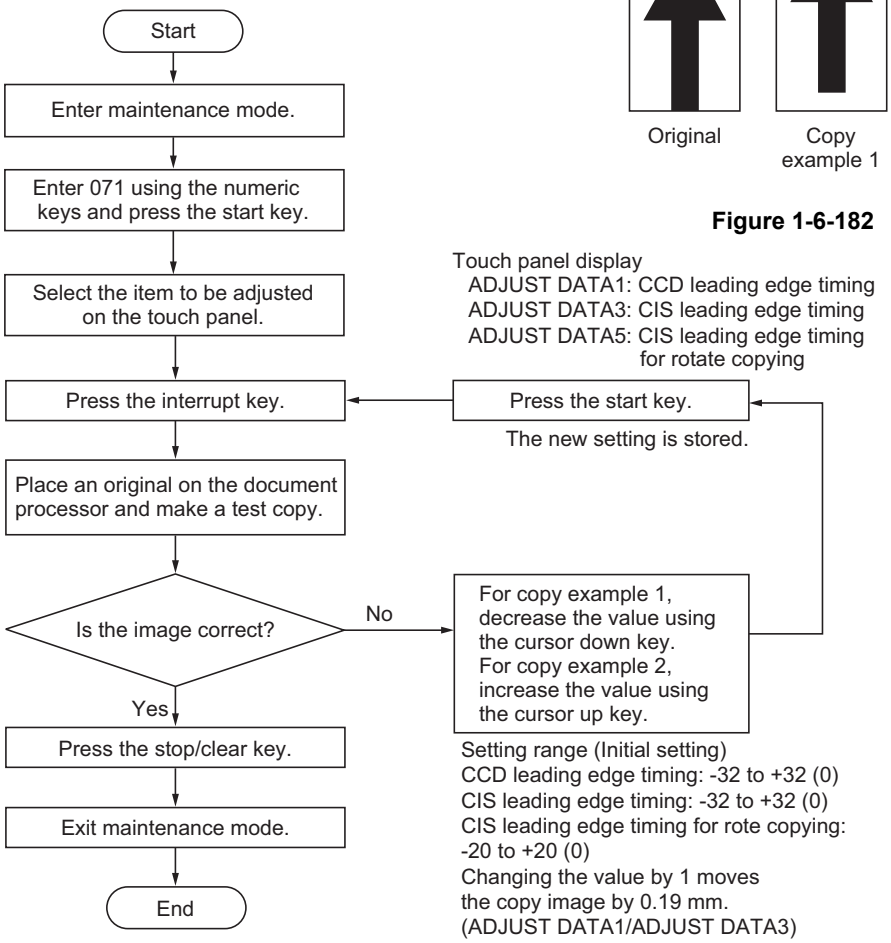


Figure 1-6-182


Start
Enter maintenance mode.
Enter 071 using the numeric keys and press the start key.
Select the item to be adjusted on the touch panel.
Press the interrupt key.
Place an original on the document processor and make a test copy.
Is the image correct?
No
Yes
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
ADJUST DATA1: CCD leading edge timing
ADJUST DATA3: CIS leading edge timing
ADJUST DATA5: CIS leading edge timing for rotate copying
Press the start key.
The new setting is stored.
For copy example 1, decrease the value using the cursor down key.
For copy example 2, increase the value using the cursor up key.
Setting range (Initial setting)
CCD leading edge timing: -32 to +32 (0)
CIS leading edge timing: -32 to +32 (0)
CIS leading edge timing for rote copying: -20 to +20 (0)
Changing the value by 1 moves the copy image by 0.19 mm. (ADJUST DATA1/ADJUST DATA3)
Changing the value by 1 moves the copy image by 0.17 mm. (ADJUST DATA5)
Decreasing the value moves the copy image backward, and increasing it moves the image forward.
After performing adjustment of U071 (ADJUST DATA3) and U072 (ADJUST DATA2), adjust U071 (ADJUST DATA5) and U072 (ADJUST DATA3).

(7-2)Adjusting the trailing edge registration

<Procedure>

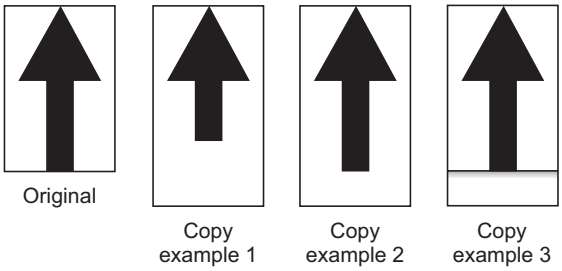
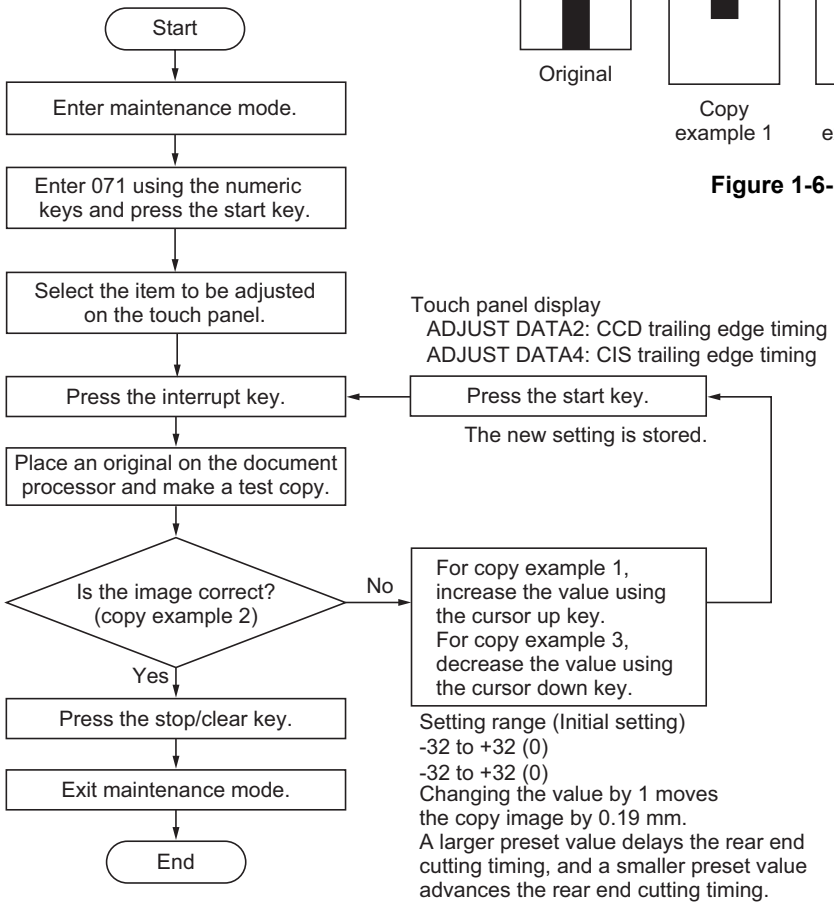


Figure 1-6-183


Start
Enter maintenance mode.
Enter 071 using the numeric keys and press the start key.
Select the item to be adjusted on the touch panel.
Touch panel display
ADJUST DATA2: CCD trailing edge timing
ADJUST DATA4: CIS trailing edge timing
Press the interrupt key.
Press the start key.
The new setting is stored.
Place an original on the document processor and make a test copy.
Is the image correct? (copy example 2)
No
For copy example 1, increase the value using the cursor up key.
For copy example 3, decrease the value using the cursor down key.
Yes
Press the stop/clear key.
Exit maintenance mode.
End
Setting range (Initial setting)
-32 to +32 (0)
-32 to +32 (0)
Changing the value by 1 moves the copy image by 0.19 mm.
A larger preset value delays the rear end cutting timing, and a smaller preset value advances the rear end cutting timing.

(8) Adjusting the margins for scanning the original from the DP

Perform the following adjustment if margins are not correct.

U402 (P. 1-6-28) → U403 (P. 1-6-55) → U404

<Caution>

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

<Procedure>

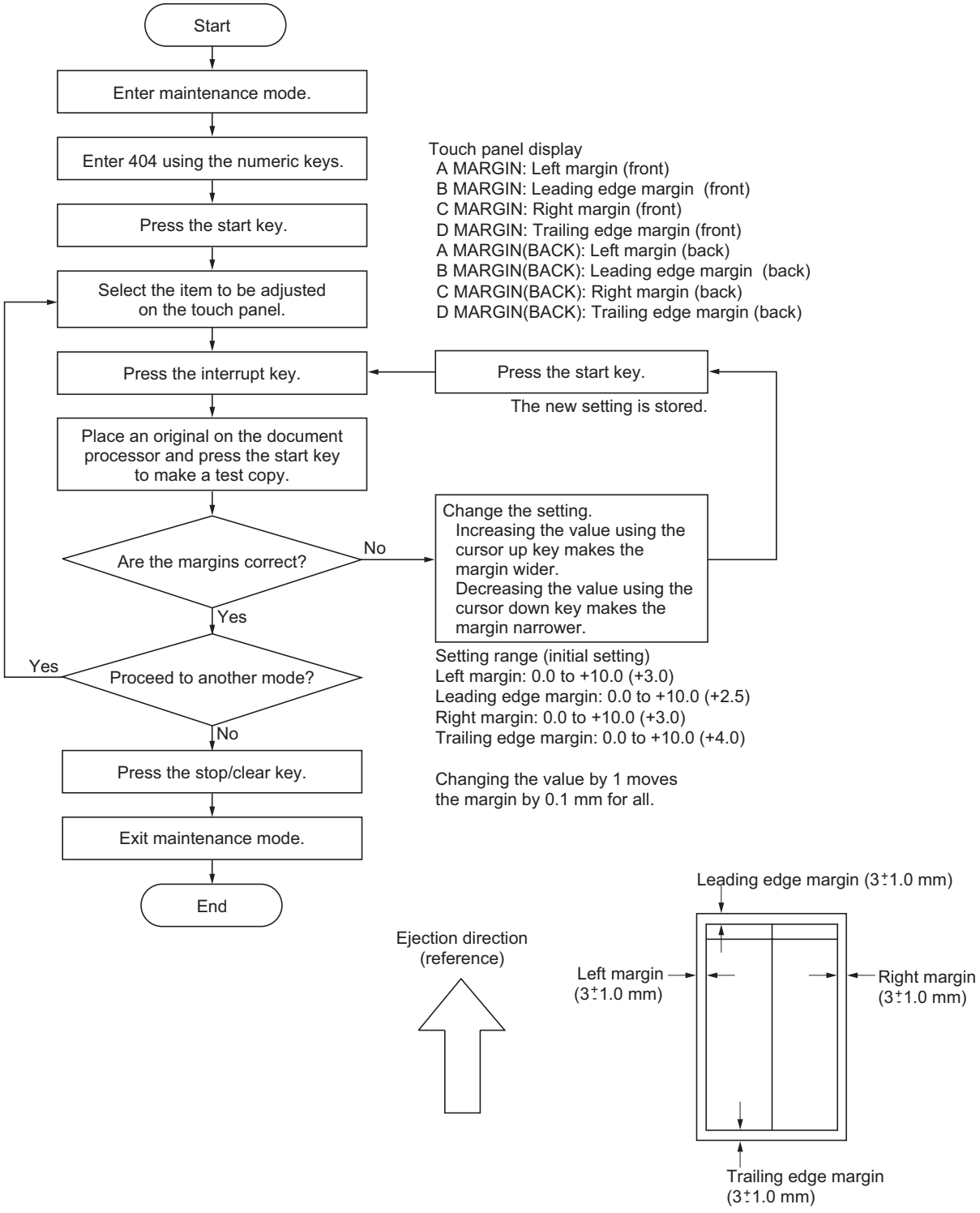

Start
Enter maintenance mode.
Enter 404 using the numeric keys.
Press the start key.
Select the item to be adjusted on the touch panel.
Press the interrupt key.
Place an original on the document processor and press the start key to make a test copy.
Are the margins correct?
No
Yes
Proceed to another mode?
Yes
No
Press the stop/clear key.
Exit maintenance mode.
End
Touch panel display
A MARGIN: Left margin (front)
B MARGIN: Leading edge margin (front)
C MARGIN: Right margin (front)
D MARGIN: Trailing edge margin (front)
A MARGIN(BACK): Left margin (back)
B MARGIN(BACK): Leading edge margin (back)
C MARGIN(BACK): Right margin (back)
D MARGIN(BACK): Trailing edge margin (back)
Press the start key.
The new setting is stored.
Change the setting.
Increasing the value using the cursor up key makes the margin wider.
Decreasing the value using the cursor down key makes the margin narrower.
Setting range (initial setting)
Left margin: 0.0 to +10.0 (+3.0)
Leading edge margin: 0.0 to +10.0 (+2.5)
Right margin: 0.0 to +10.0 (+3.0)
Trailing edge margin: 0.0 to +10.0 (+4.0)
Changing the value by 1 moves the margin by 0.1 mm for all.
Ejection direction (reference)
Leading edge margin (3±1.0 mm)
Left margin (3±1.0 mm)
Right margin (3±1.0 mm)
Trailing edge margin (3±1.0 mm)

Figure 1-6-184

1-6-12 Others

(1) Detaching and refitting the waste toner box

Follow the procedure below to replace the waste toner box.

Procedure

1. Remove the two pins and then remove the lower right rear cover.

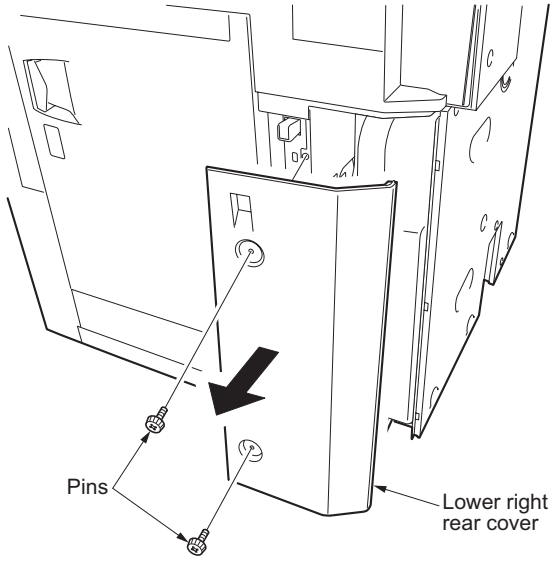


Figure 1-6-185

2. Pull out the waste toner box.
3. Replace the waste toner box and attach the tank.
4. Refit the right rear cover.
5. Run maintenance item U921 (Checking/ clearing the waste toner box count) to clear the count (see page 1-4-71).

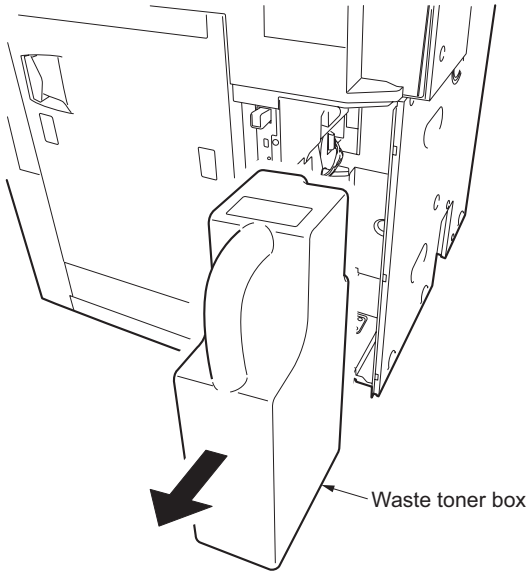


Figure 1-6-186

(2) Detaching and refitting the developing rear fan filter

Follow the procedure below to replace the developing rear fan filter.

Procedure

1. Remove the screw and then remove the developing fan cover.

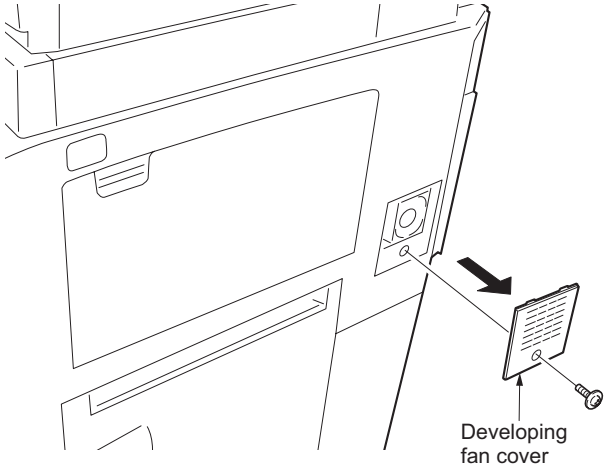


Figure 1-6-187

2. Remove the developing rear fan filter from the developing fan cover.
3. Replace the developing rear fan filter and attach the developing fan cover.
4. Refit the developing fan cover.

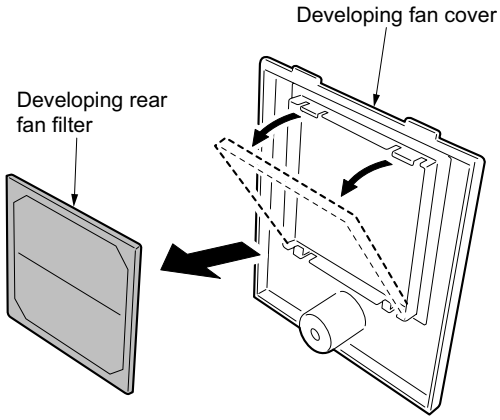


Figure 1-6-188

(3) Detaching and refitting the developing front fan filters

Follow the procedure below to replace the developing front fan filters.

Procedure

1. Open the front cover.
2. Remove developing front fan filter 1 and 2.
3. Replace developing front fan filter 1 and 2, and attach the filters.

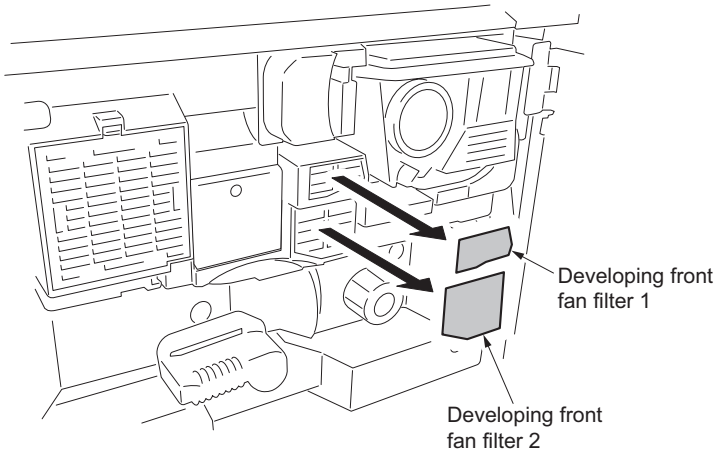


Figure 1-6-189

(4) Detaching and refitting the image formation fan filter

Follow the procedure below to replace the image formation filter.

Procedure

1. Remove the image formation fan cover while pushing the lever.

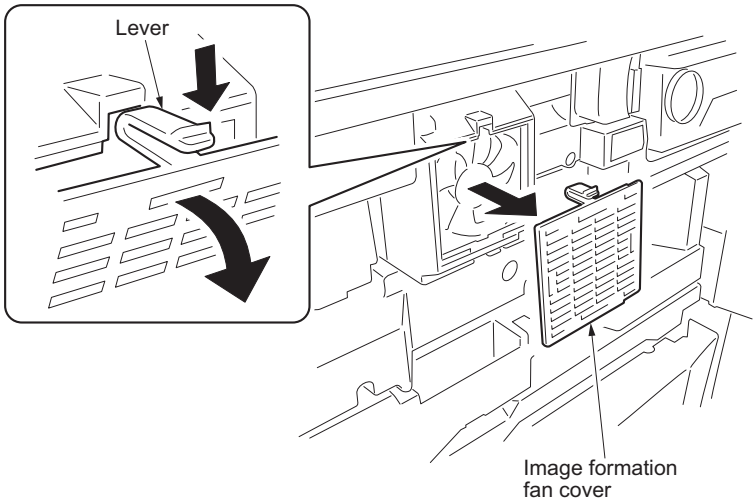


Figure 1-6-190

2. Remove the image formation fan filter from the image formation fan cover.
3. Replace the image formation fan filter and attach the filter to the image formation fan cover.
4. Refit the image formation fan cover.

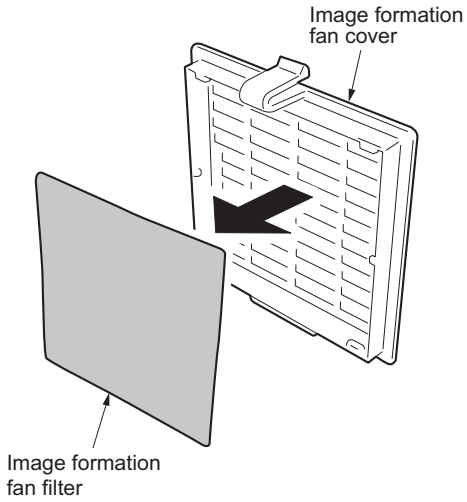


Figure 1-6-191

(5) Detaching and refitting the front cover filters

Follow the procedure below to replace the front cover filters.

Procedure

1. Open the front cover.
2. Release three inserted parts of the duct inner cover and then remove the duct inner cover from the front cover.

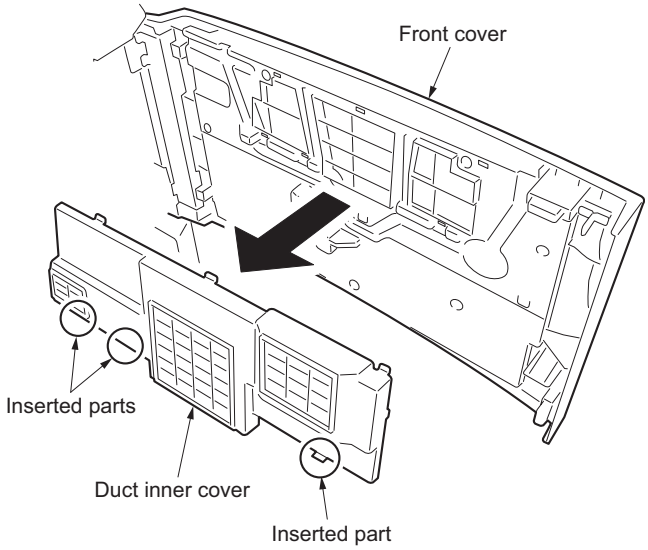


Figure 1-6-192

3. Remove front cover filter 1, 2 and 3 from the duct inner cover.
4. Replace front cover filter 1, 2 and 3, and attach the filters to the duct inner cover.
5. Refit the duct inner cover to the front cover.

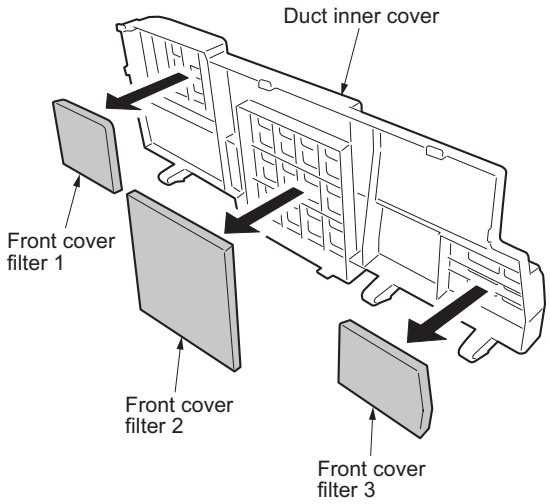


Figure 1-6-193

(6) Detaching and refitting the ozone filters

Follow the procedure below to replace the ozone filters.

Procedure

1. Remove each two screws and then remove the rear duct A and B.

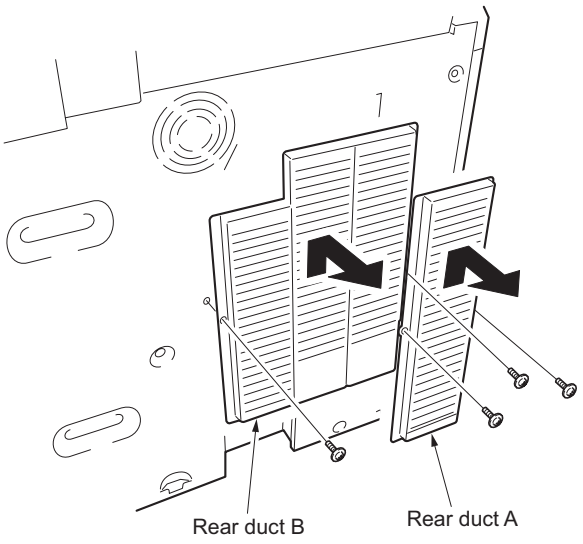


Figure 1-6-194

2. Remove ozone filter 1 from the rear duct A.

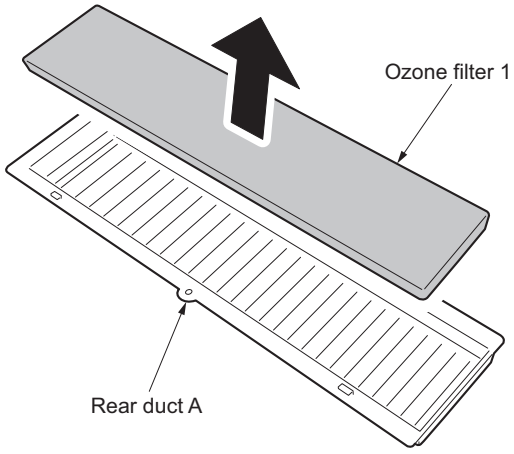


Figure 1-6-195

3. Remove three ozone filter 2 from the rear duct B.

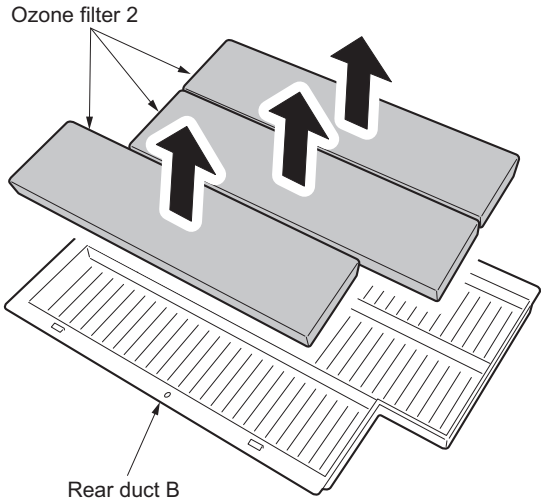


Figure 1-6-196

4. Remove ozone filter 3 from the machine rear side.
5. Replace ozone filter 1, 2 and 3, and then attach the filters.
6. Refit the rear duct A and B.

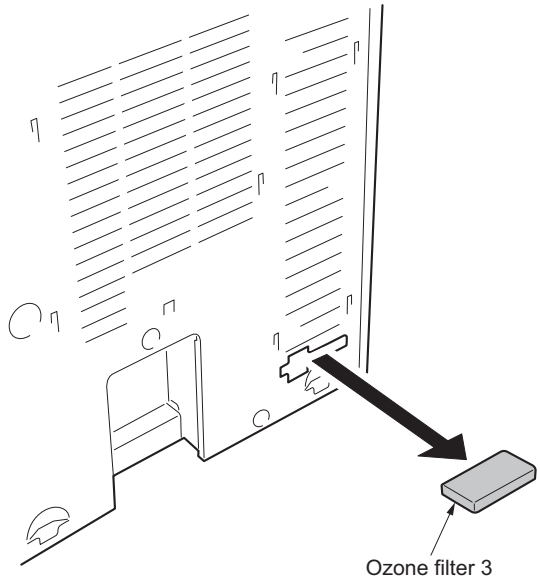


Figure 1-6-197

1-7-1 Upgrading the firmware

Follow the procedure below to upgrade the firmware on the main PWB and engine PWB.

Firmware upgrading requires the following tools:
Compact Flash (Products manufactured by SANDISK are recommended.)

NOTE
When writing data to a new Compact Flash from a computer, be sure to format it in advance.

Procedure

1. Press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
   * Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
2. Remove the screw and release the projection.
   Remove the CF cover.

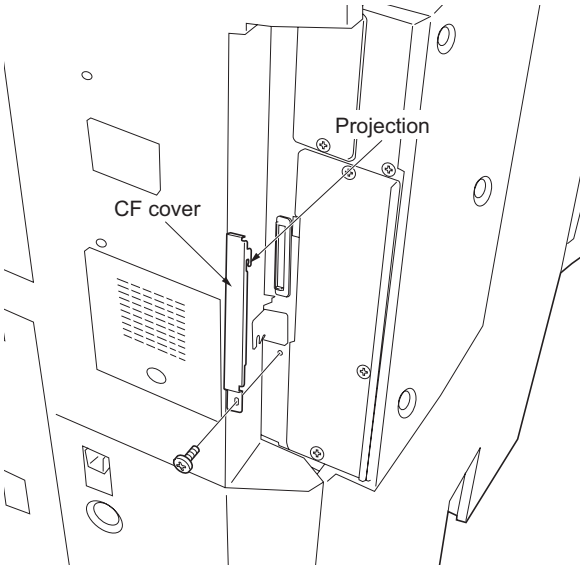


Figure 1-7-1

3. Insert Compact Flash in a notch hole of the machine.
   * Insert it straight all the way into the machine with the front side facing the rear of the machine. If the main power switch is turned off when the Compact Flash is not properly inserted, the PWB may be damaged.
4. Insert the power plug and turn the main power switch on. Upgrading firmware starts for 100 seconds.

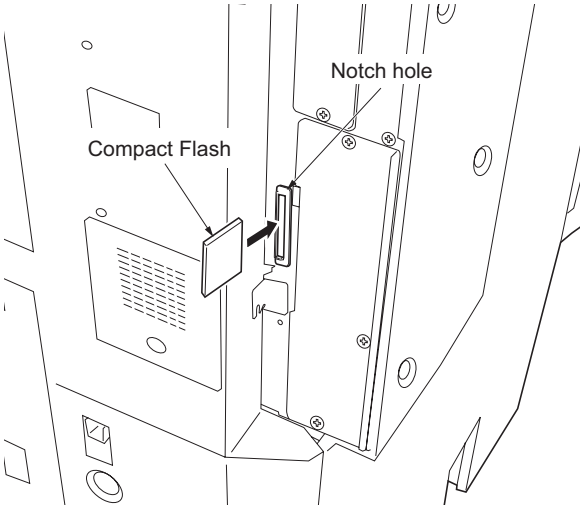


Figure 1-7-2

Caution
Never turn the main power switch off during upgrading.

5. [Completed] is displayed on the message display when upgrading is complete.
6. Press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
   * Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
7. Remove Compact Flash from the machine.
8. Insert the projection of the CF cover to the shield box and refit the CF cover using the screw.
9. Insert the power plug and turn the main power switch on.

1-7-2 Adjustment-free variable resistors (VR)

The variable resistors listed below are set at the factory prior to shipping and cannot be adjusted in the field.
• Inverter PWB: VR1

1-7-3 Remarks on main PWB replacement

Follow the procedure below to replace the main PWB.
Caution
When replacing the main PWB, run maintenance items U026 and U027. If replacing the PWB without running these items, faulty images may occur.
Procedure

1. Run maintenance item U000 to output a status report (see page 1-4-7).
2. Run maintenance item U026 (Evacuation of the backup data), and record the displayed checksum (see page 1-4-11-1).
3. Replace the main PWB.
   * When refitting the main PWB, remove the EEPROM from the main PWB that has been removed and then reattach it to the new main PWB.

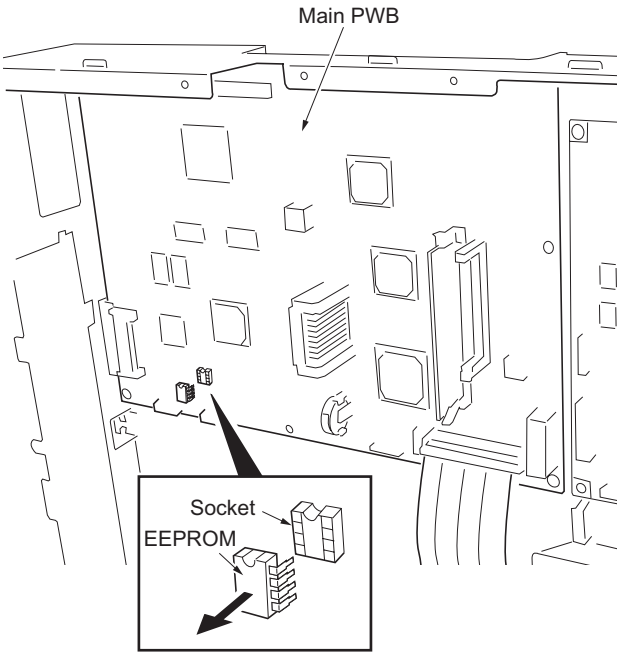


Figure 1-7-3

4. Run maintenance item U027 (Return of the backup data) (see page 1-4-11-1). Check that the displayed checksum is the same as the result of U026 that has been run in step 2.
5. Run maintenance item U000 to output the status report and check that the current setting is the same as the setting before replacement of the main PWB (see page 1-4-7).

1-7-4 Remarks on engine PWB replacement

When replacing the engine PWB, remove the EEPROM from the engine PWB that has been removed and then reattach it to the new engine PWB.

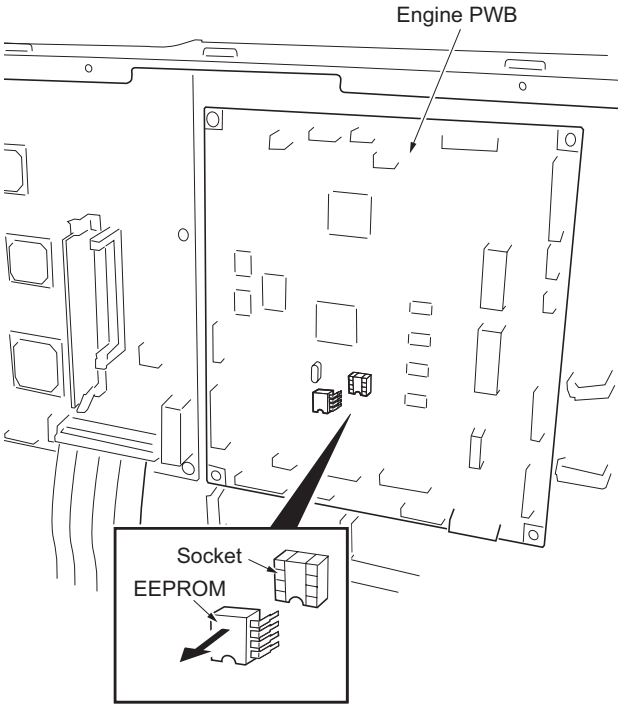


Figure 1-7-4

1-7-5 Remarks on scanner PWB replacement

When replacing the scanner PWB, remove the EEPROM from the scanner PWB that has been removed and then reattach it to the new scanner PWB.

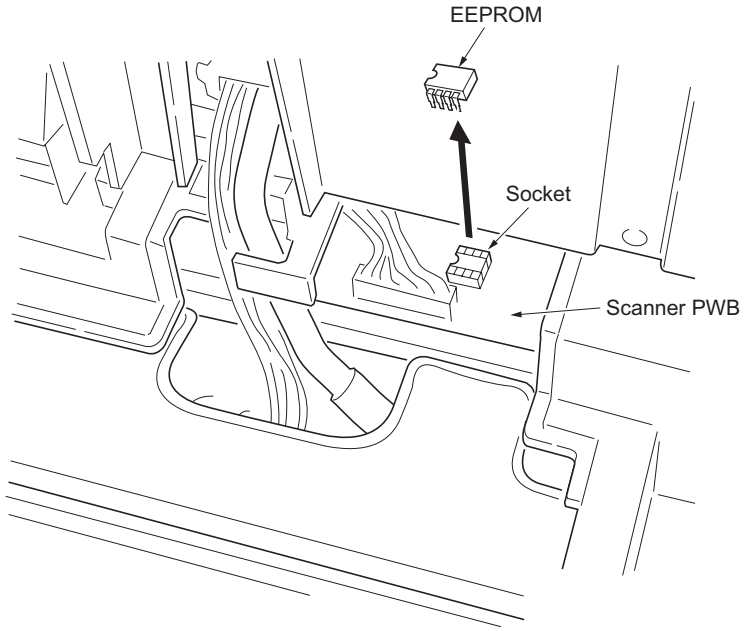


Figure 1-7-5

1-7-6 Upgrading the printer board firmware

Follow the procedure below to upgrade the firmware on the optional printer board.

Firmware upgrading requires the following tools:
Compact Flash (Products manufactured by SANDISK are recommended.)

NOTE
When writing data to a new Compact Flash from a computer, be sure to format it in advance.

Procedure

1. Press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.
   * Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
2. Insert Compact Flash which has firmware into the printer board.
3. Insert the power plug and turn the main power switch on. Upgrading firmware starts.

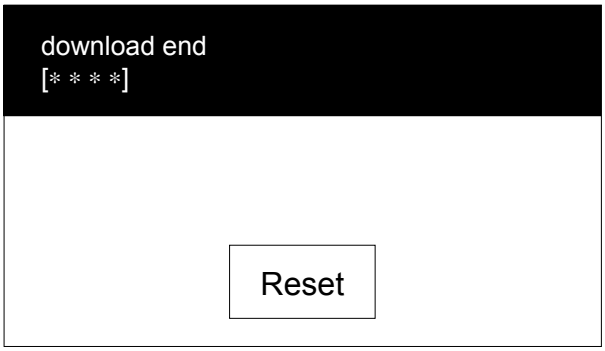


Figure 1-7-6

4. When upgrading the firmware is completed correctly, the display in Figure 1-7-6 will be shown on the operation panel screen.
5. Press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch at the operation panel screen which shown on Figure 1-7-6. And then unplug the power cable from the wall outlet.
   * Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.
6. Remove Compact Flash from the printer board.

Caution

If pressing the Reset button shown on Figure 1-7-6, upgrading the firmware will start again and if turn the main power switch off before the download is finished, writing for the program will not finish till the end and [Checksum error F010] will occur.

2-1-1 Paper feed section

This copier is designed to feed paper either automatically from four paper cassettes or manually from the MP tray.

(1) Paper feed section 1 (cassette 1 and 2)

Paper feed section 1 (cassette 1 and 2) consists of the paper holder with the deck base activated by lift motor 1 and 2, and the deck conveying unit for extracting and conveying the paper.
Each cassette can hold up to 1500 sheets of paper.
Paper is fed out of the cassette by the rotation of the forwarding pulley, paper feed pulley and separation pulley.

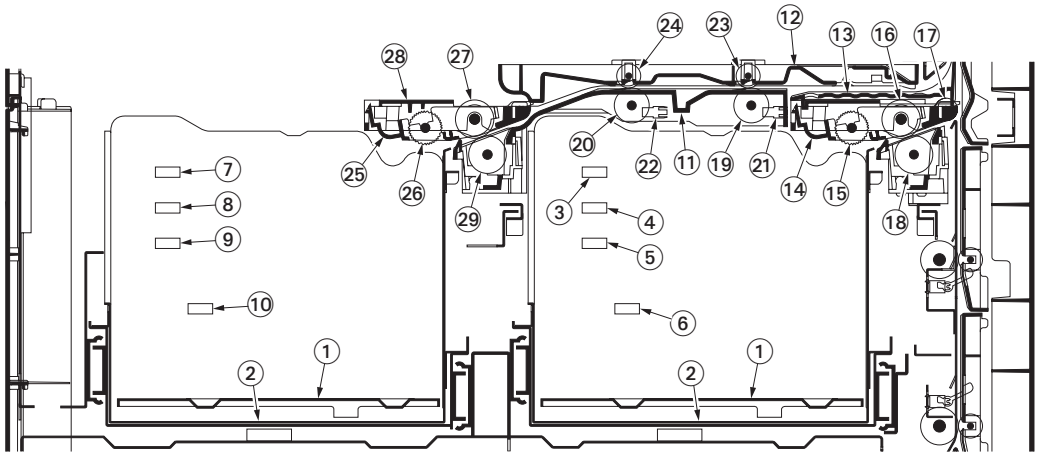


Figure 2-1-1 Paper feed section 1 (cassette 1 and 2)

(1) Deck base
(2) Deck lift plate
(3) Cassette 1 level sensor 1 (CAS1LS1)
(4) Cassette 1 leave sensor 2 (CAS1LS2)
(5) Cassette 1 leave sensor 3 (CAS1LS3)
(6) Cassette 1 detection sensor (CAS1DS)
(7) Cassette 2 leave sensor 1 (CAS2LS1)
(8) Cassette 2 leave sensor 2 (CAS2LS2)
(9) Cassette 2 leave sensor 3 (CAS2LS3)
(10) Cassette 2 detection sensor (CAS2DS)
(11) Deck feed housing
(12) Deck feed guide
(13) Lower deck guide
(14) Leading feed housing
(15) Forwarding pulley
(16) Paper feed pulley
(17) Support pulley
(18) Separation pulley
(19) Deck conveying roller
(20) Deck conveying roller
(21) Deck conveying switch 1 (DCSW1)
(22) Deck conveying switch 2 (DCSW2)
(23) Feed pulley
(24) Feed pulley
(25) Leading feed housing
(26) Forwarding pulley
(27) Paper feed pulley
(28) Deck conveying left cover
(29) Separation pulley

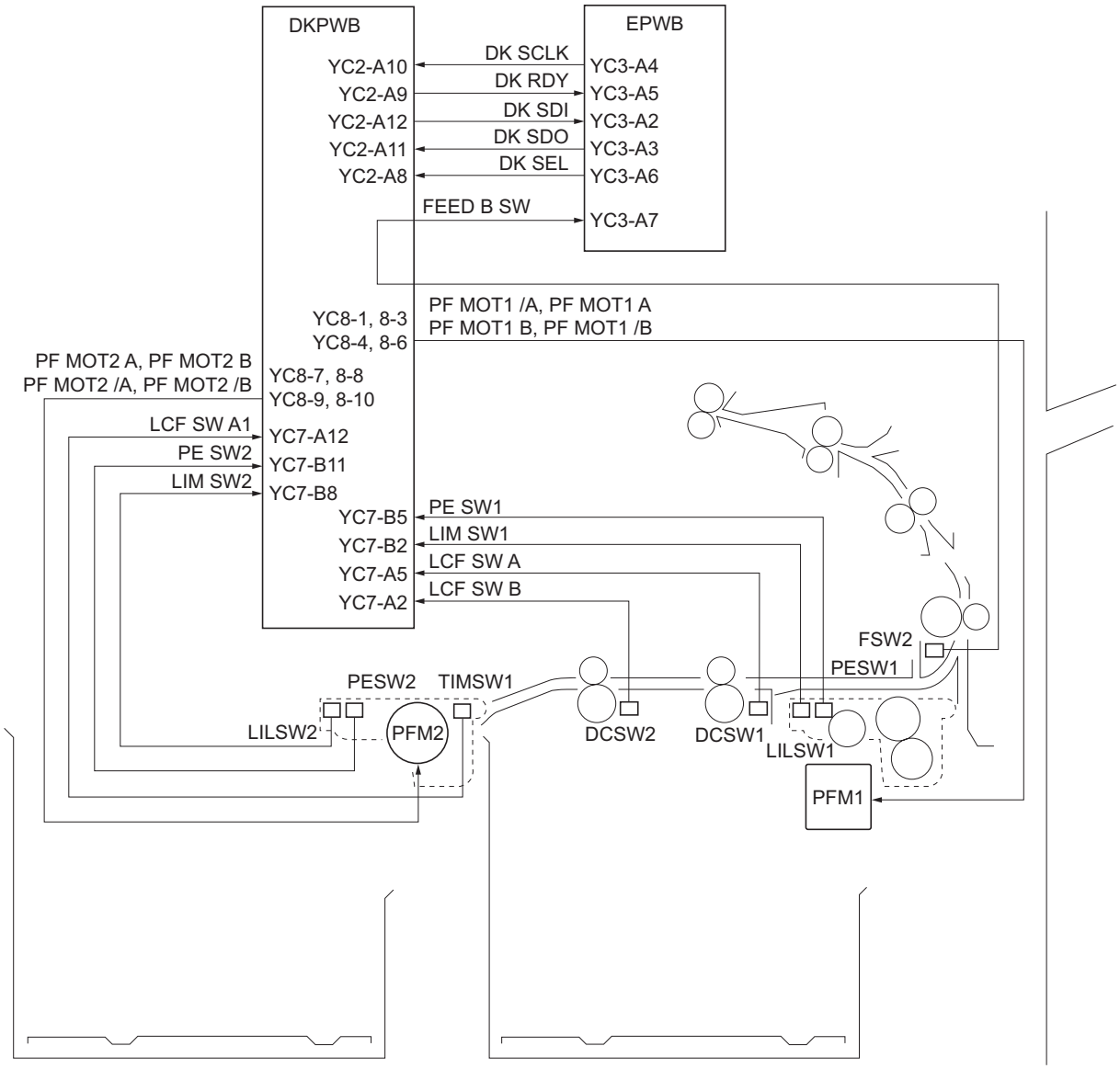


Figure 2-1-2 Paper feed section 1 block diagram

(2) Paper feed section 2 (cassette 3 and 4)

Paper feed section 2 (cassette 3 and 4) consists of the paper holder with the cassette operation plate activated by lift motor 3 and 4, and the pulleys, such as the forwarding pulley, the paper feed pulley and the separation pulley, for extracting and conveying the paper.

Each cassette can hold up to 500 sheets (80 g/m^2)/525 sheets (75 g/m^2) of paper.
Paper is fed out of the cassette by the rotation of the forwarding pulley, paper feed pulley and separation pulley.

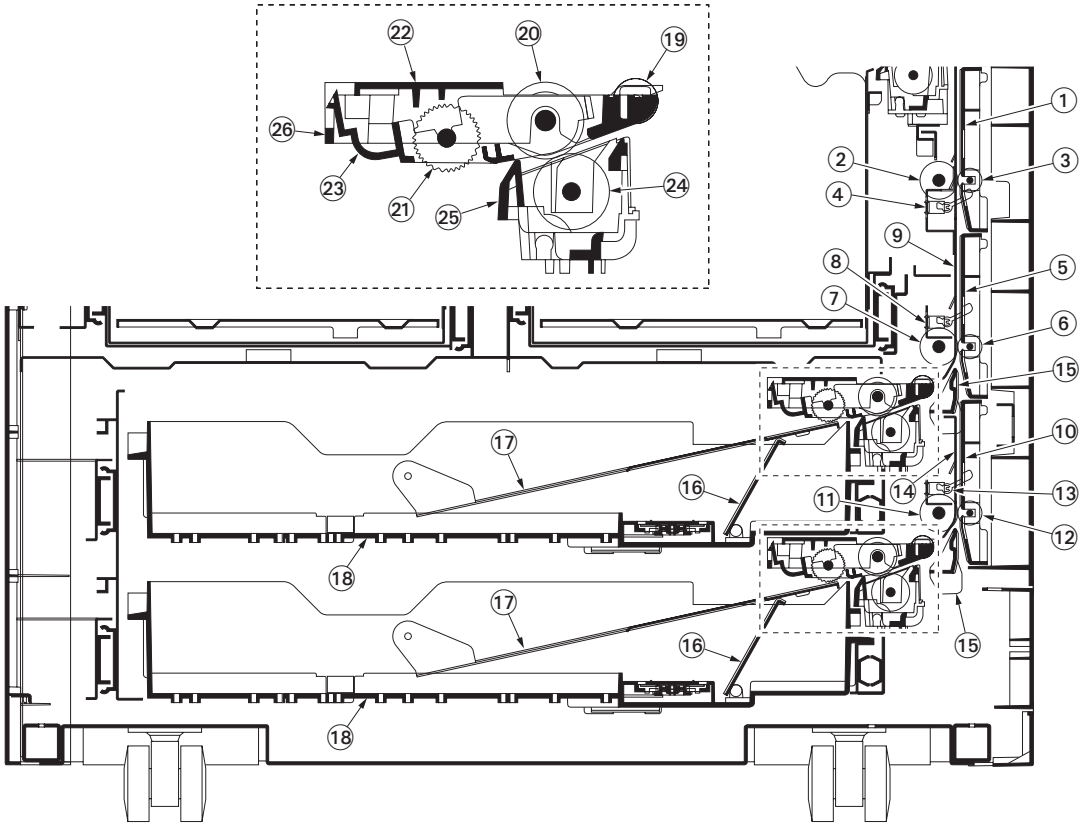


Figure 2-1-3 Paper feed section 2 (cassette 3 and 4)

(1) Vertical feed right guide B
(2) Vertical feed roller
(3) Feed pulley
(4) Feed switch 3 (FSW3)
(5) Vertical feed right guide B
(6) Feed pulley
(7) Vertical feed roller
(8) Feed switch 4 (FSW4)
(9) Left guide B
(10) Vertical feed right guide B
(11) Vertical feed roller
(12) Feed pulley
(13) Feed switch 5 (FSW5)
(14) Left guide C
(15) Left open guide
(16) Lift cassette operation plate
(17) Lift cassette operation plate
(18) Cassette
(19) Support pulley
(20) Paper feed pulley
(21) Forwarding pulley
(22) Feed cover
(23) Leading feed housing
(24) Separation pulley
(25) Feed lower housing
(26) Feed upper housing

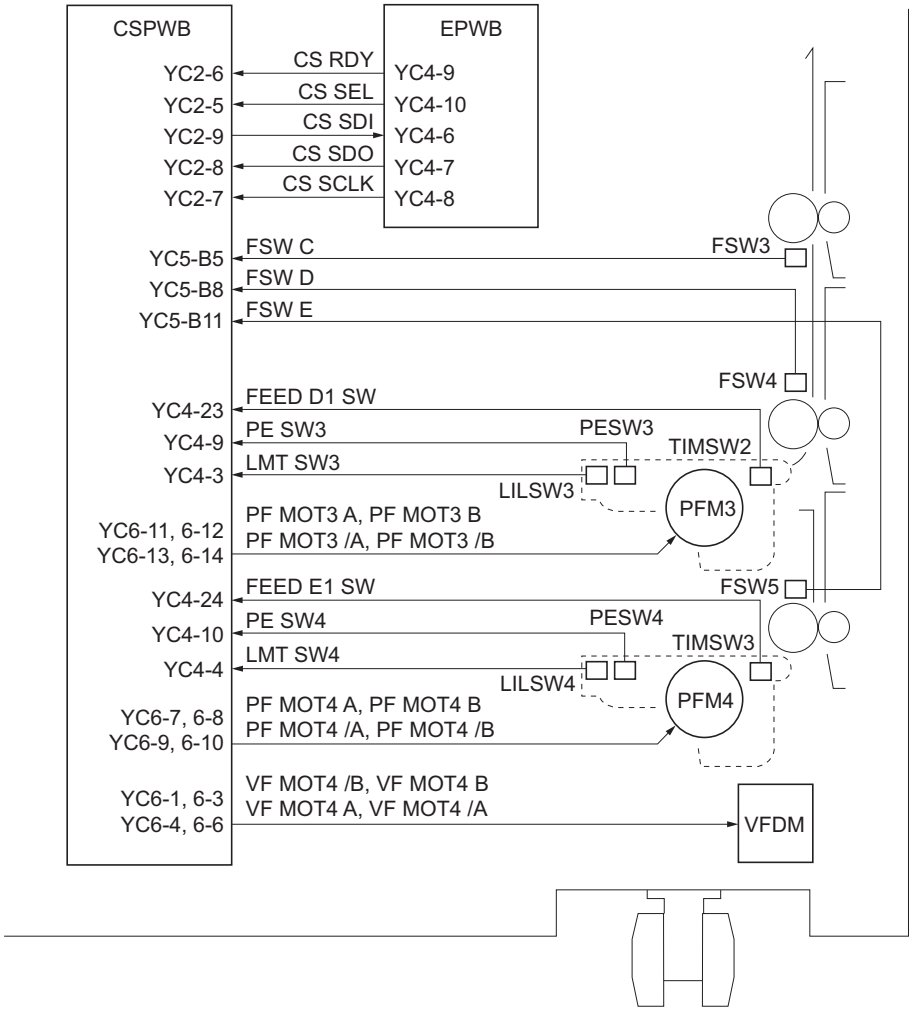


Figure 2-1-4 Paper feed section 2 block diagram

(3) Paper feed section 3

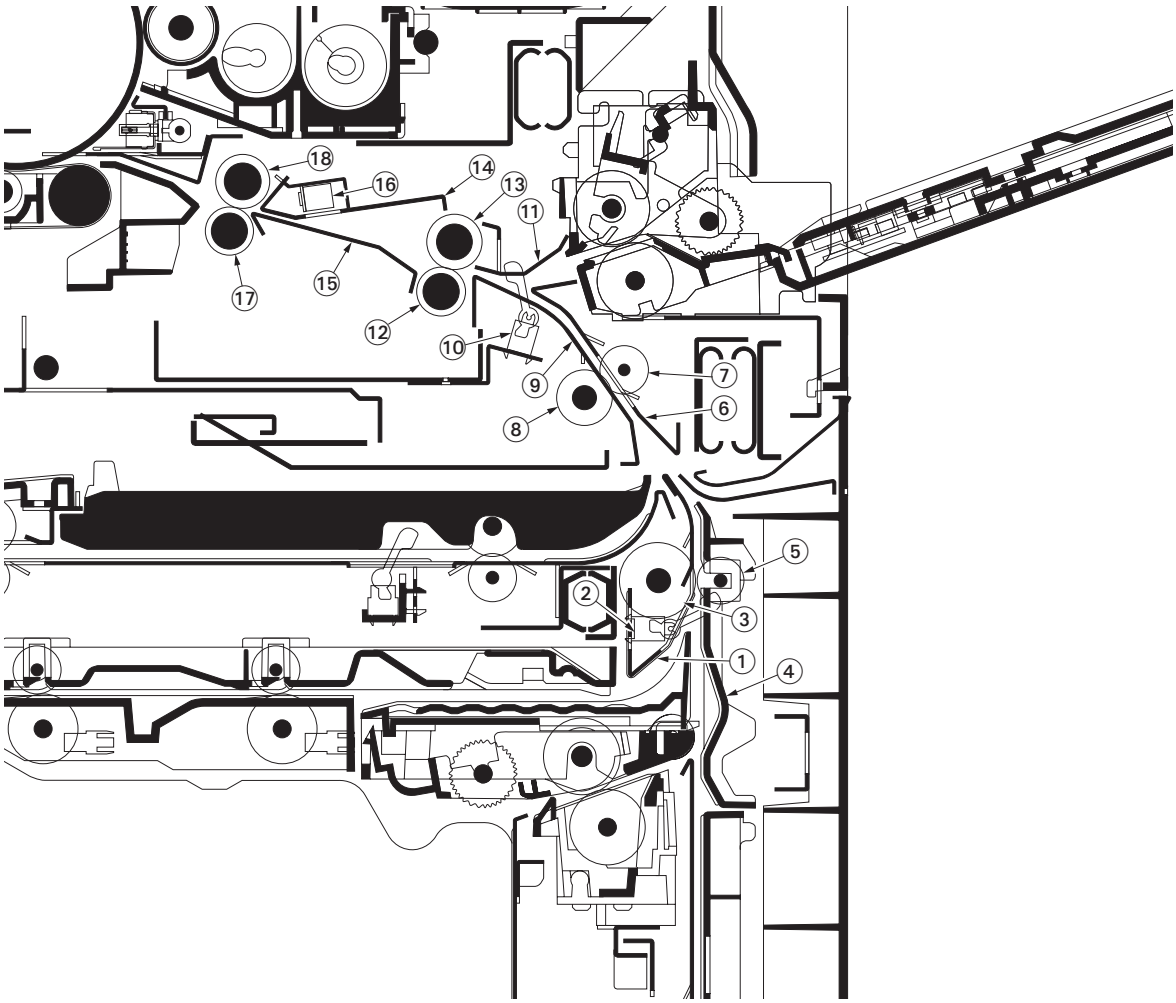


Figure 2-1-5 Paper feed section 3

(1) Left guide A
(2) Feed switch 2 (FSW2)
(3) Vertical feed roller
(4) Vertical feed right guide A
(5) Feed pulley
(6) Feed B upper guide
(7) Feed pulley
(8) Feed B roller
(9) Feed lower guide
(10) Feed switch 1 (FSW1)
(11) Feed A upper guide
(12) Registration lower roller
(13) Registration upper roller
(14) Registration upper guide
(15) Registration lower guide
(16) Registration switch (RSW)
(17) Registration lower roller
(18) Registration upper roller

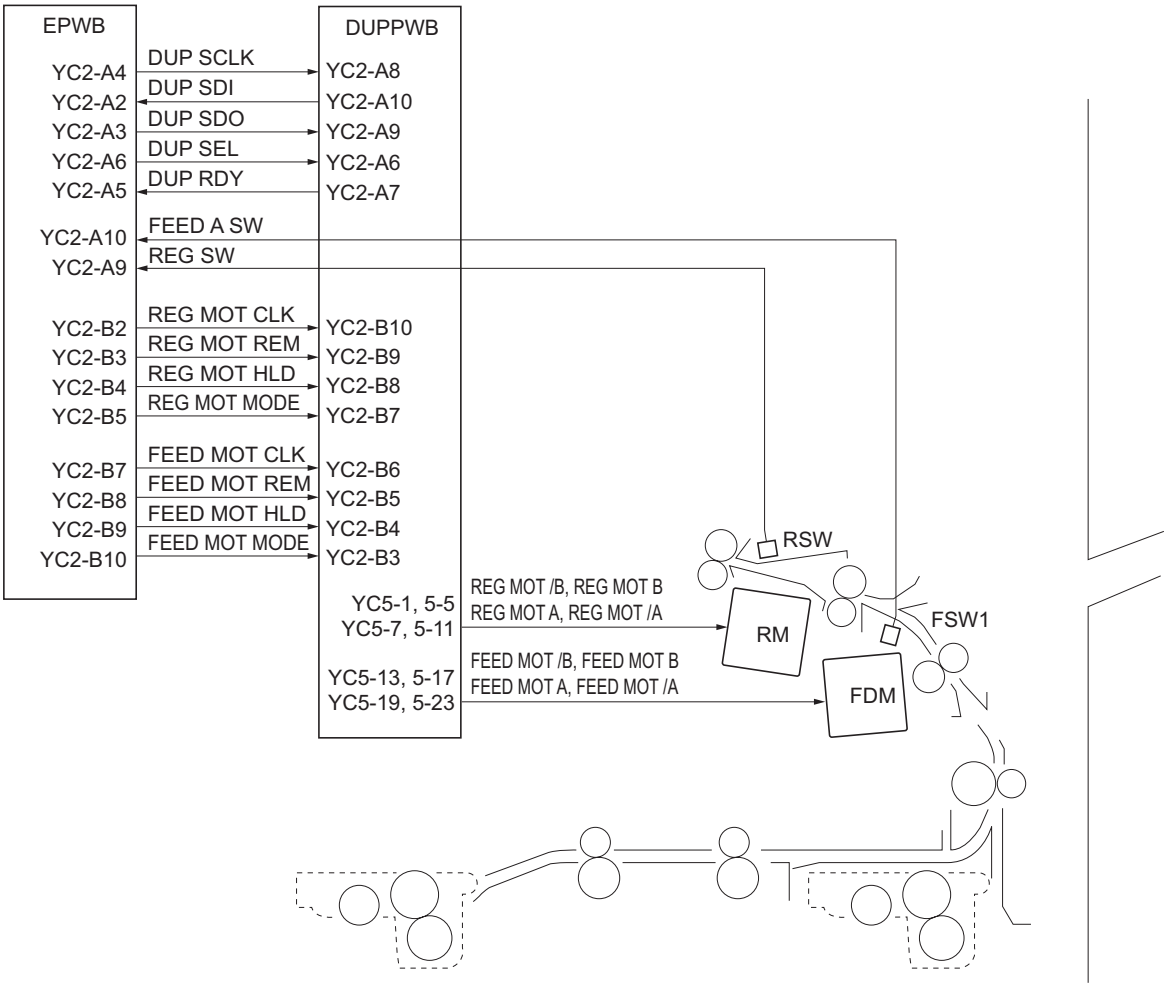


Figure 2-1-6 Paper feed section 3 block diagram

(4) MP tray and MP tray paper feed section

The MP tray can be hold up to 100 sheets of paper at one time.
When the start key is pressed, the MP solenoid (MPSOL) turns on.
The paper placed on the MP tray comes into contact with the MP forwarding pulley, is primary paper fed by the rotating of the MP forwarding roller and is conveyed to the MP feed pulley and MP separation pulley.
Also during paper feed, the MP separation pulley prevents multiple sheets from being fed at one time by the torque limiter.

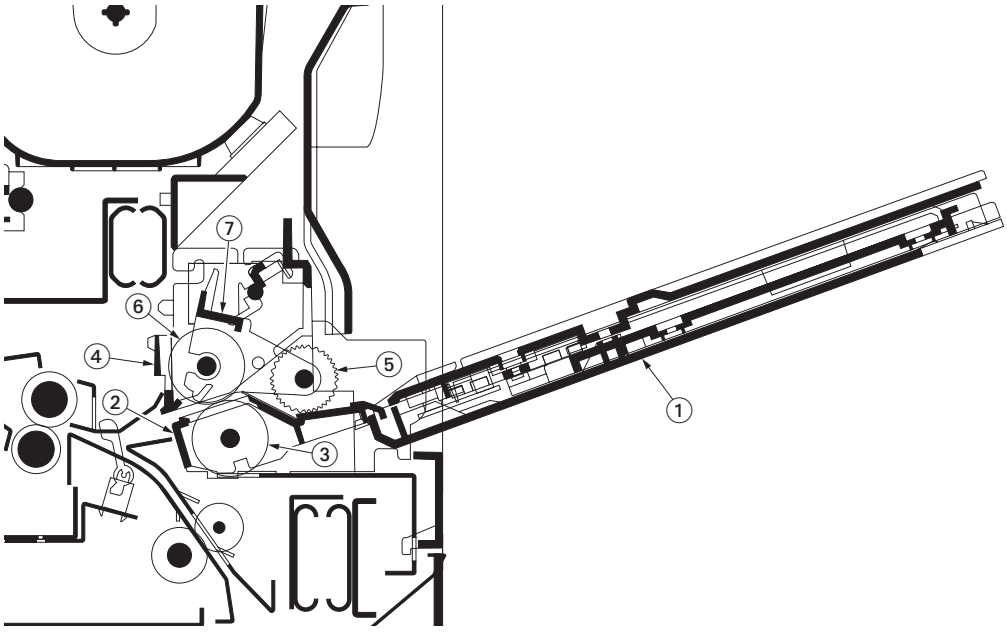


Figure 2-1-7 MP tray and MP tray paper feed section

(1) MP tray
(2) MP lower guide
(3) MP separation pulley
(4) MP housing
(5) MP forwarding pulley
(6) MP paper feed pulley
(7) MP support plate

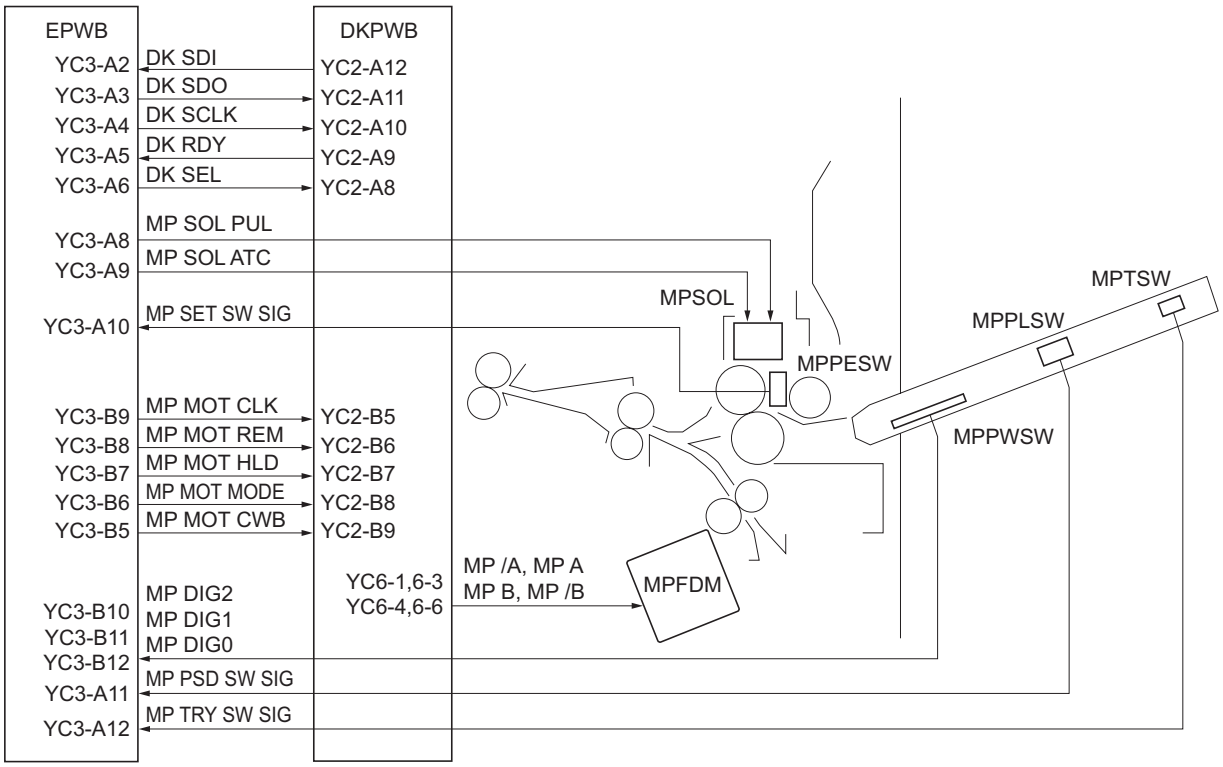


Figure 2-1-8 MP tray and MP tray paper feed section block diagram

2-1-2 Main charger section

The main charging section consists of the main charger unit, drum, potential sensor and so on. The drum is electrically charged uniformly by means of a grid to form a latent image on the surface.
The potential sensor (DPS) reads the drum surface potential and corrects surface potential.
The main charger unit has the main charger cleaning motor (CLM), main charger cleaning pad for automatic cleaning of the charger wire.
The drum heater (DRH) inside the drum is turned on and off based on changes in ambient temperature and humidity to stabilize the image quality.

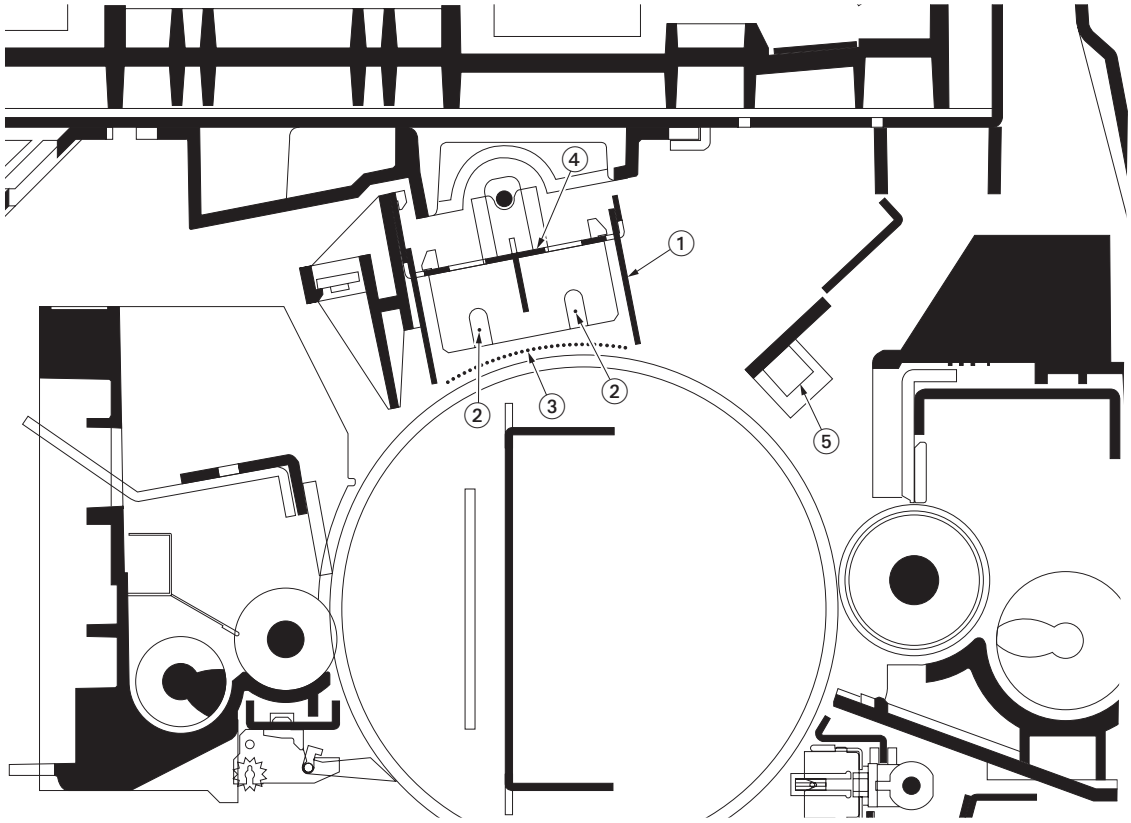


Figure 2-1-9 Main charger section

(1) Main charger shield
(2) Main charger wire
(3) Main charger grid
(4) Main charger base
(5) Potential sensor (PTS)

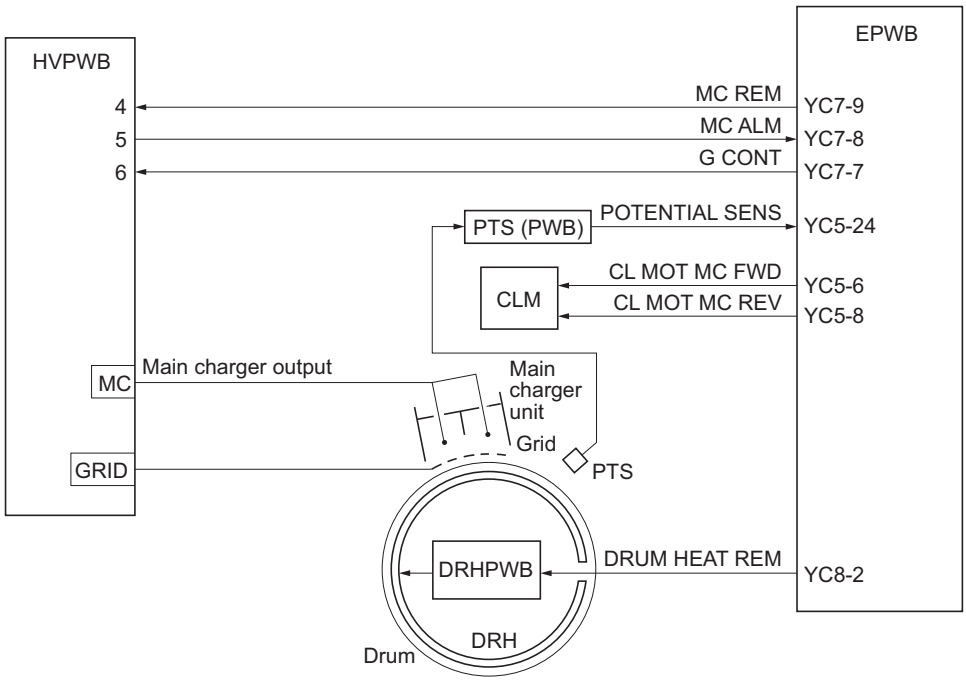


Figure 2-1-10 Main charger section block diagram

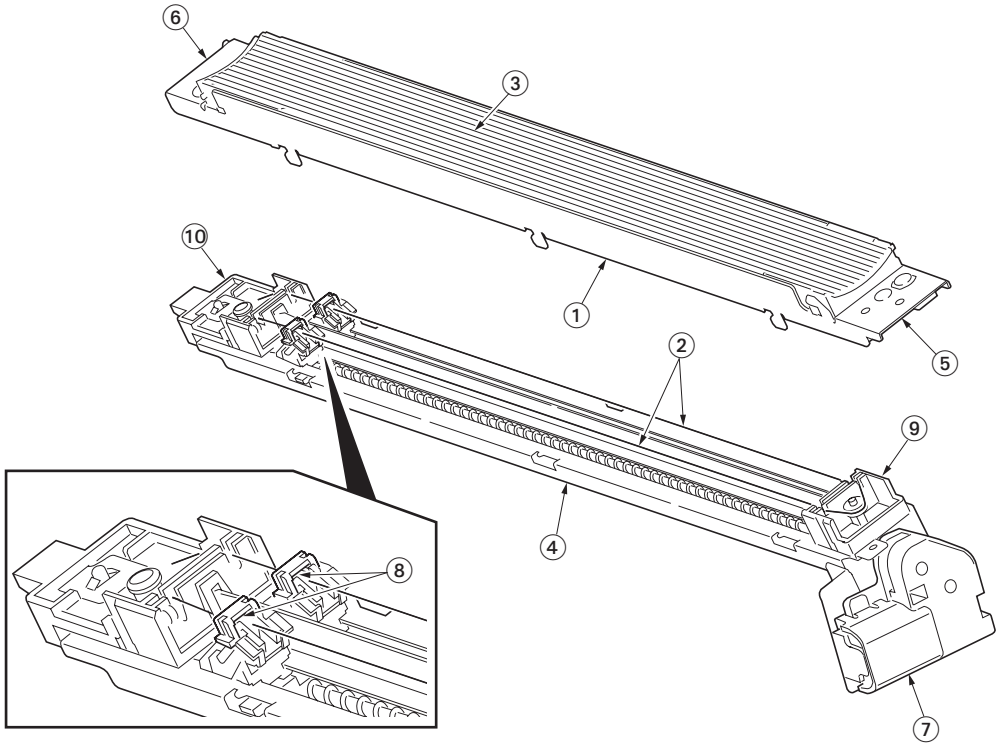


Figure 2-1-11 Main charger unit

(1) Main charger shield
(2) Main charger wire
(3) Main charger grid
(4) Main charger base
(5) Grid front housing
(6) Grid rear housing
(7) Cleaning motor (CLM)
(8) MC cleaning pad holder
(9) MC front housing
(10) MC rear housing

2-1-3 Optical section

The optical section consists of the scanner, mirror frame and image scanning unit for scanning and the laser scanner unit for printing.

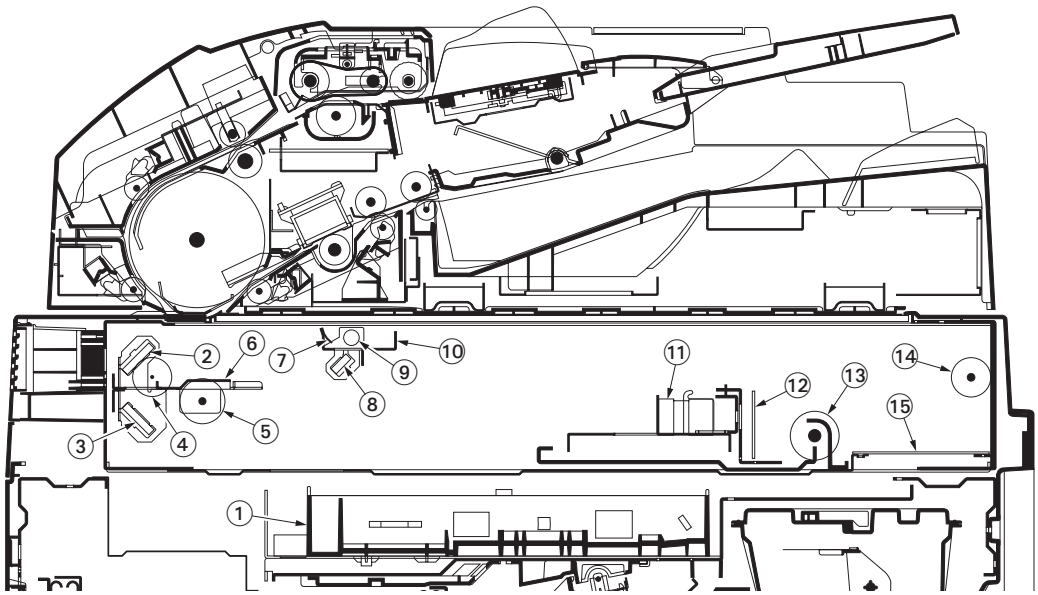


Figure 2-1-12 Optical section

(1) Laser scanner unit (LSU)
(2) Mirror B
(3) Mirror B
(4) Scanner pulley
(5) Lamp wire pulley
(6) Mirror 2 frame
(7) Scanner reflector
(8) Mirror A
(9) Exposure lamp (EL)
(10) Mirror 1 frame
(11) ISU lens
(12) CCD PWB (CCDPWB)
(13) Drum pulley
(14) Scanner pulley
(15) SHD PWB (SHDPWB)

(1) Original scanning

The original image is illuminated by the exposure lamp (EL) and scanned by the CCD in the CCD PWB (CCDPWB) via the three mirrors and lens, the reflected light being converted to an electrical signal.
The mirror 1 and 2 frames travel to scan on the optical rails on the front and rear of the machine to scan from side to side. The speed of the mirror 2 frame is half the speed of the mirror 1 frame.
When the DP is used, the mirror 1 and 2 frames stop at the DP original scanning position to start scanning the first side of the original. The DP scans 2 sides of the original at the same time by using CIS to scan the second side of the original.

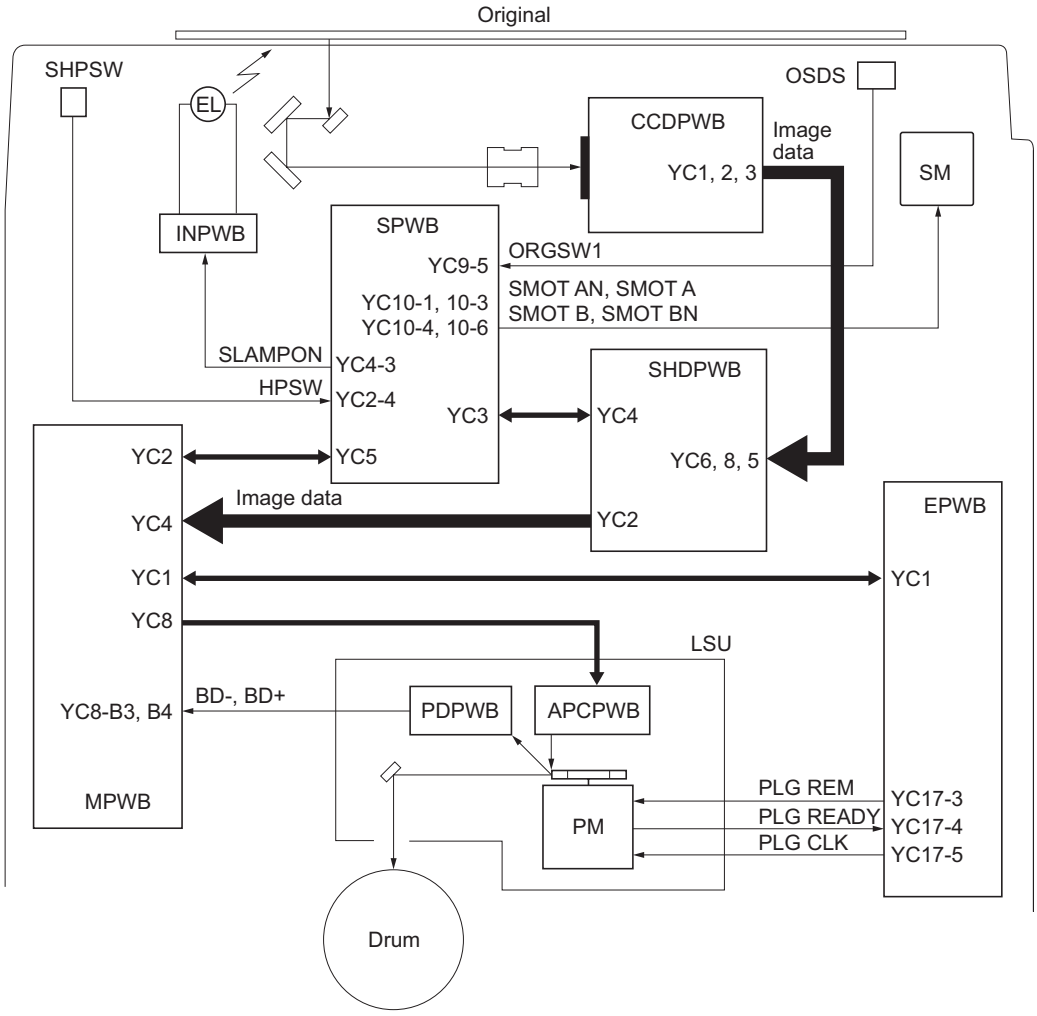


Figure 2-1-13 Optical section block diagram

(2) Image printing

The image data scanned by the CCD PWB (CCDPWB) is processed on the main PWB (MPWB) and transmitted as image printing data to the laser scanner unit (LSU).
By repeatedly turning the laser on and off, the laser scanner unit forms a latent image on the drum surface.

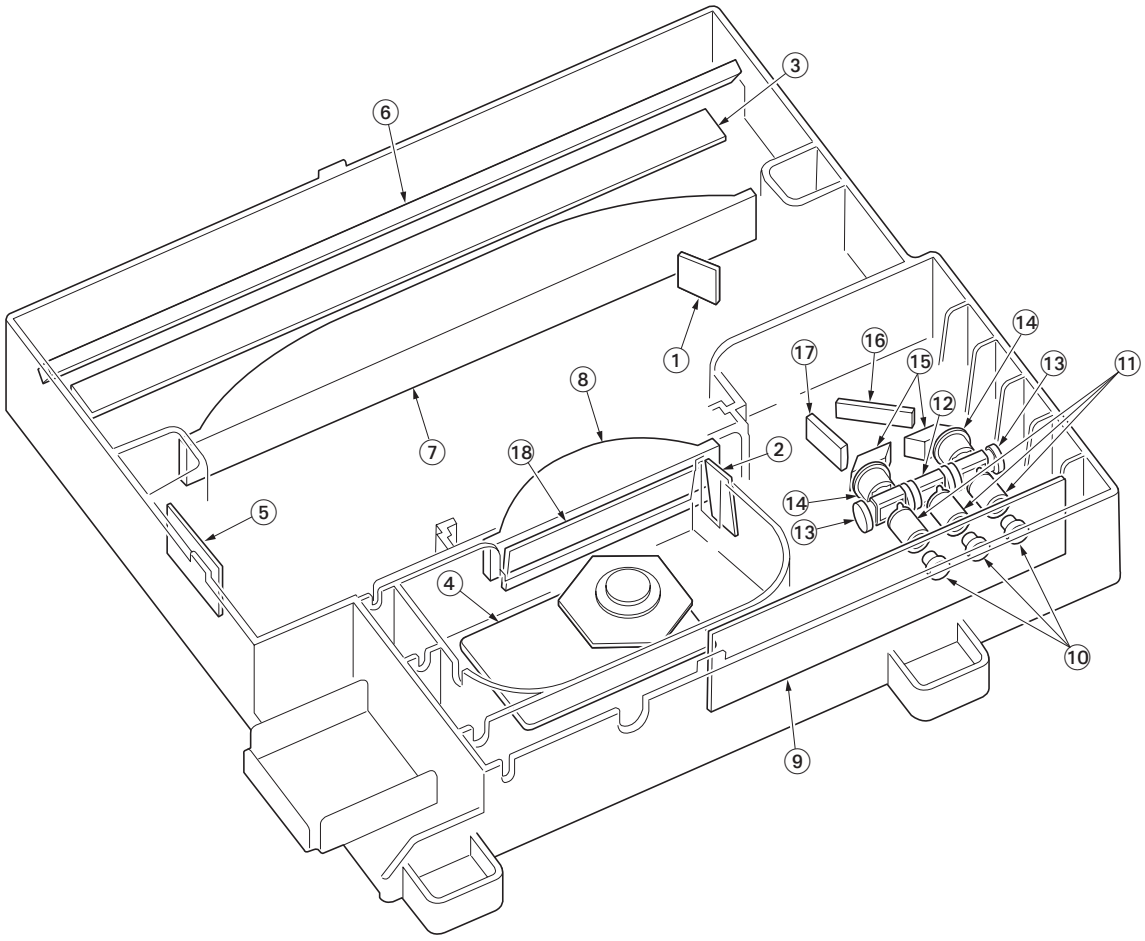


Figure 2-1-14 Laser scanner unit (LSU)

(1)	Beam detect reflection mirror	(10)	Laser diode
(2)	Polygon glass	(11)	Collimator lens
(3)	Dust shield glass	(12)	Glass PP2
(4)	Polygon motor (PM)	(13)	Glass PP
(5)	PD PWB (PDWPWB)	(14)	Glass WP
(6)	Reflection mirror	(15)	Glass P
(7)	Lens B	(16)	Mirror LD
(8)	Lens A	(17)	Lens C
(9)	APC PWB (APCPWB)	(18)	Coat glass

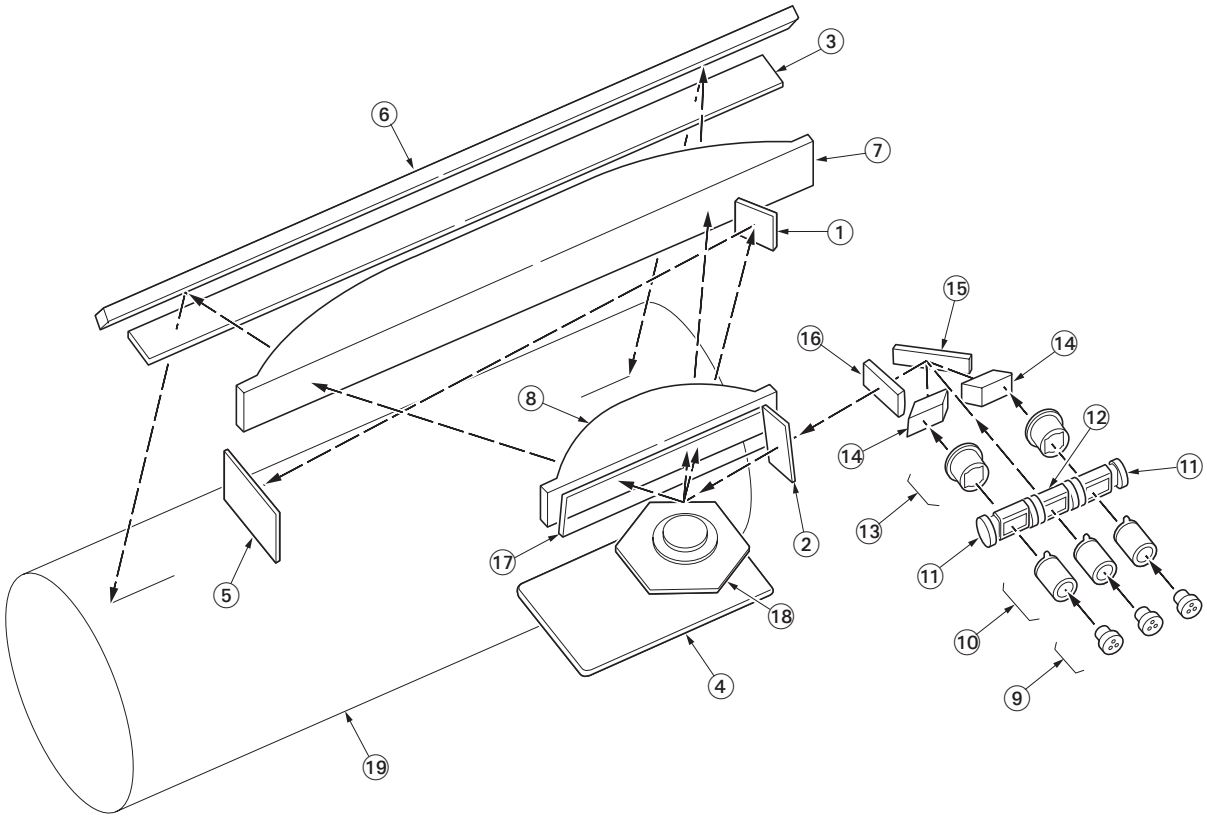


Figure 2-1-15 Laser scanner unit (LSU)

(1) Beam detect reflection mirror
(2) Polygon mirror
(3) Dust shield glass
(4) Polygon motor (PM)
(5) PD PWB (PDWPWB)
(6) Reflection mirror
(7) Lens B
(8) Lens A
(9) Laser diode
(10) Collimator lens
(11) Glass PP2
(12) Glass PP
(13) Glass WP
(14) Glass P
(15) Mirror LD
(16) Lens C
(17) Coat glass
(18) Polygon mirror
(19) Drum

2-1-4 Developing section

The developing section consists of the developing unit and the toner container.
The developing unit consists of the developing roller where a magnetic brush is formed, the developing blade and the developing spirals that agitate the developer.
The engine PWB (EPWB) turns on/off the toner motor according to the toner sensor output voltage, and supply toner in the toner container to the developing unit.

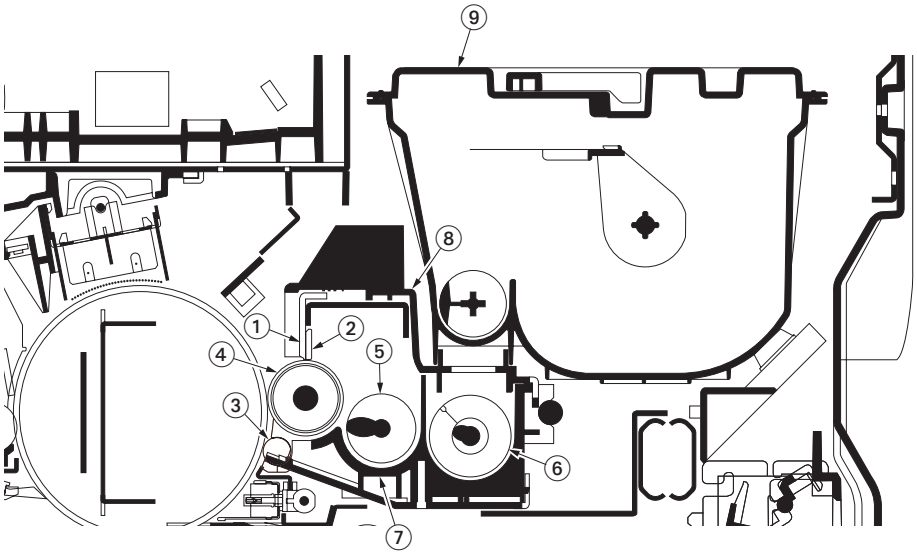


Figure 2-1-16 Developing section

(1) Developing blade
(2) Blade magnet
(3) Toner collection roller
(4) Developing roller
(5) Spiral DLP A
(6) Spiral DLP B
(7) Developing housing
(8) Developing upper cover
(9) Toner container

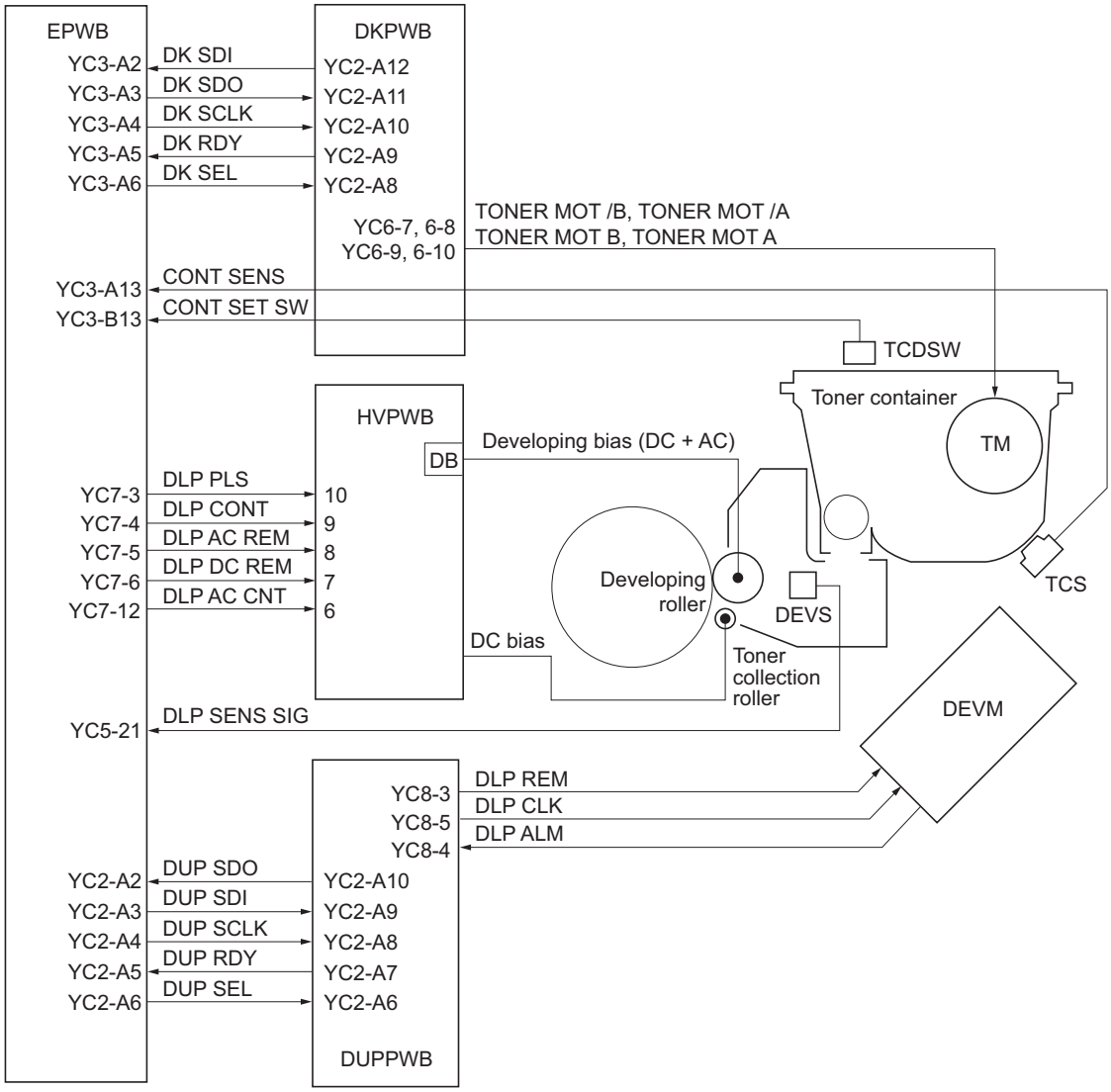


Figure 2-1-17 Developing section block diagram

(1) Single component developing system

This machine uses the single component developing system, and reversal processing is performed with a + charged drum (a-Si) and a + charged magnetic toner.
With the single component developing system, toner is electrically charged by friction with the developing sleeve and + charged when it passes through the magnetic doctor blade.
The toner that has passed through the magnetic doctor blade forms a uniform layer on the developing sleeve.
When the toner layer comes to the location where the developing sleeve is the nearest to the drum, toner moves between the drum and the developing sleeve by an electric field.
Then, when the developing sleeve passes through the nearest location to the drum, on the portion of the drum that has been exposed to light, toner is attracted toward the drum by potential difference between the developing bias and the drum surface and development is performed.
On the other hand, on the portion of the drum that has not been exposed to light, toner is attracted toward the sleeve and development is not performed.
When toner comes to an area where the gap between the drum and the developing sleeve is large, an electric field disappears and toner does not leave the developing sleeve. Development is complete.

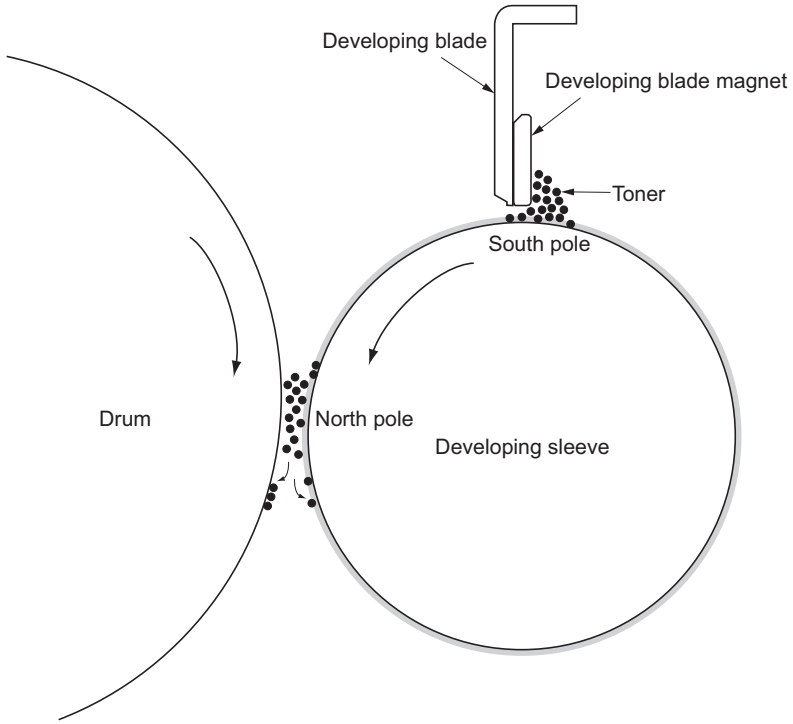


Figure 2-1-18 Single component developing system

2-1-5 Transfer section

The transfer section comprises the transfer charger belt for transferring the toner image on the drum onto the paper, and conveying the paper after transfer to the fuser section, the transfer roller for applying the transfer bias to the transfer charger belt, etc.
When the paper passes between the drum and the transfer charger belt, the transfer bias current output from the transfer high voltage PWB (THVPWB) is applied to the transfer roller.
This effects the transfer charging and the toner image developed on the drum is transferred to the paper.
Also, through the transfer charge, the transfer charger belt is charged and pulls the paper and separates it from the drum.

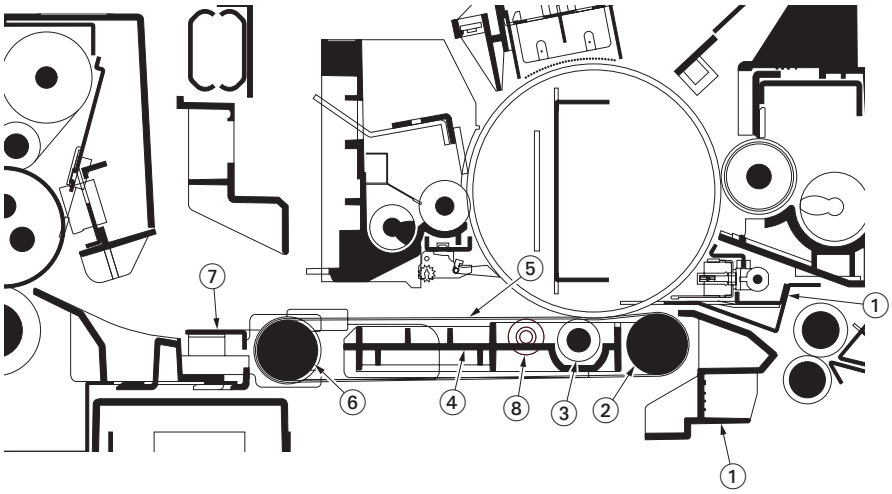


Figure 2-1-19 Transfer section

(1)	Transfer lower front guide	(5)	Transfer belt
(2)	Idle belt roller	(6)	Belt drive roller
(3)	Transfer roller	(7)	Transfer rear guide
(4)	Transfer stay	(8)	Transfer ground roller

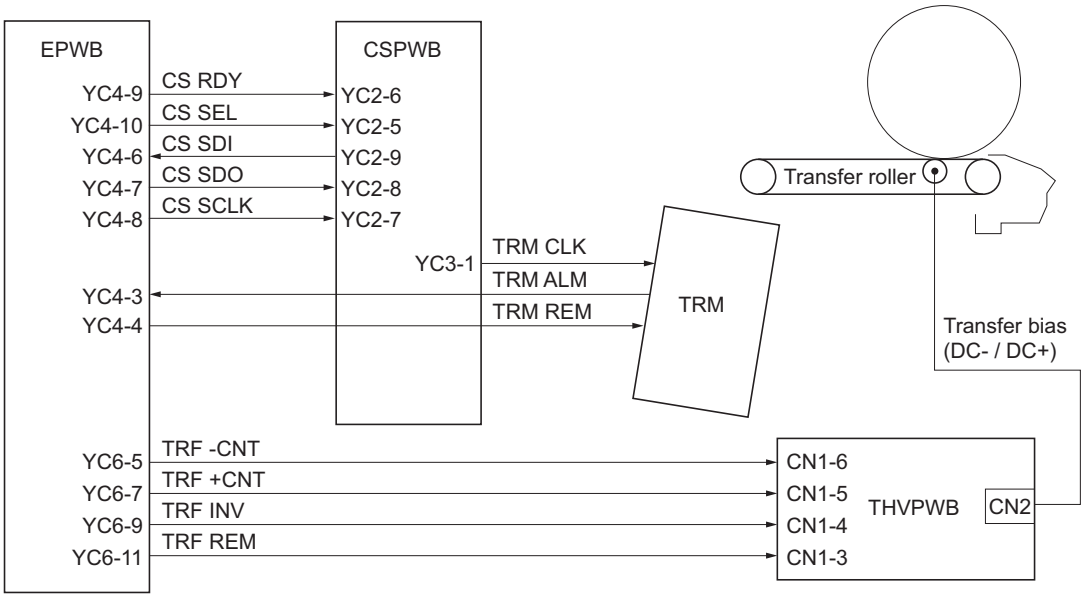


Figure 2-1-20 Transfer section block diagram

2-1-6 Cleaning section

The machine employs a blade cleaning method with a cleaning brush.
The cleaning section consists of the cleaning blade and cleaning brush which remove residual toner from the drum surface after transfer, the cleaning plate scraper that remove toner from the cleaning brush, and the cleaning spiral that carries the residual toner to the waste toner box.
The cleaning lamp (CL) consists of 18 LEDs and built into the main charger unit. The cleaning lamp (CL) removes residual charge from the drum surface by exposing LED light to the drum.

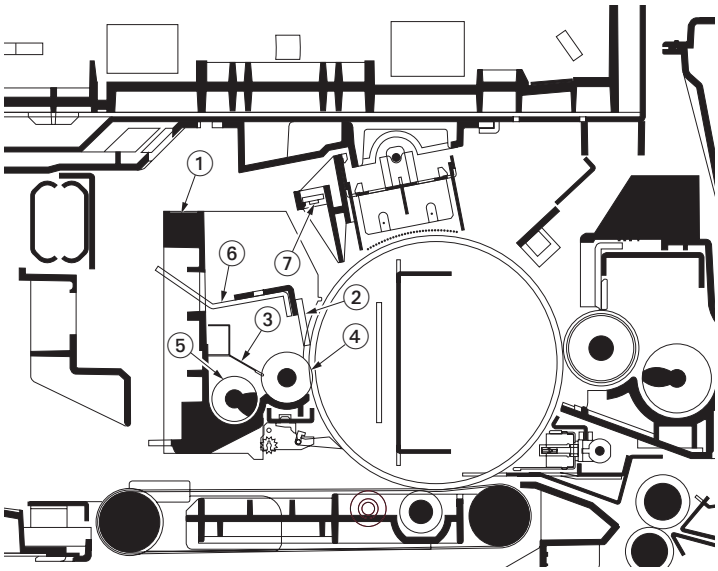


Figure 2-1-21 Cleaning section

(1) Cleaning housing
(2) Cleaning blade
(3) Scraper plate
(4) Cleaning brush
(5) Cleaning spiral
(6) Cleaning blade mount
(7) Cleaning lamp (CL)

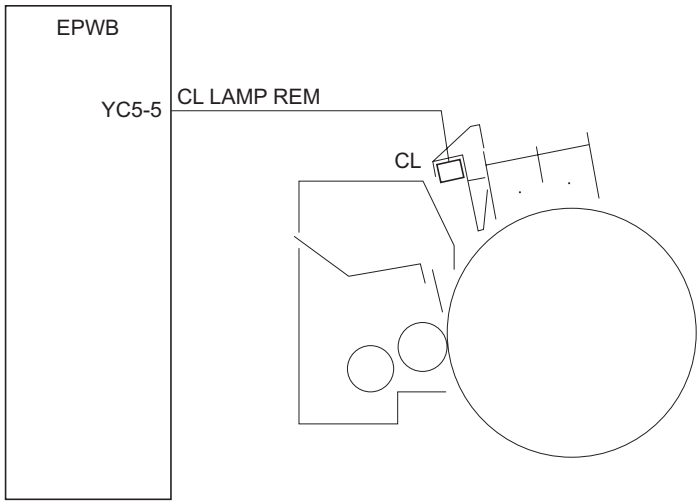


Figure 2-1-22 Cleaning section block diagram

2-1-7 Fuser section

The fuser section consists of the parts shown in the figure.
When the paper reaches the fuser section after the transfer process, it passes through the gap between the press roller and heat roller, which is heated by fuser heaters M, S and L (FH-M, FH-S and FH-L).
where pressure is applied by the pressure springs so that toner on the paper is melted and fused onto the paper
When the fuser process is completed, the paper is separated from the heat roller and press roller by their separation claws and is ejected out of the copier by the rotation of the fuser eject pulley and roller.
The cleaning felt in contact with the heat roller cleans the surface of the heat roller.
The lower cleaning roller in contact with the press roller cleans the surface of the press roller.

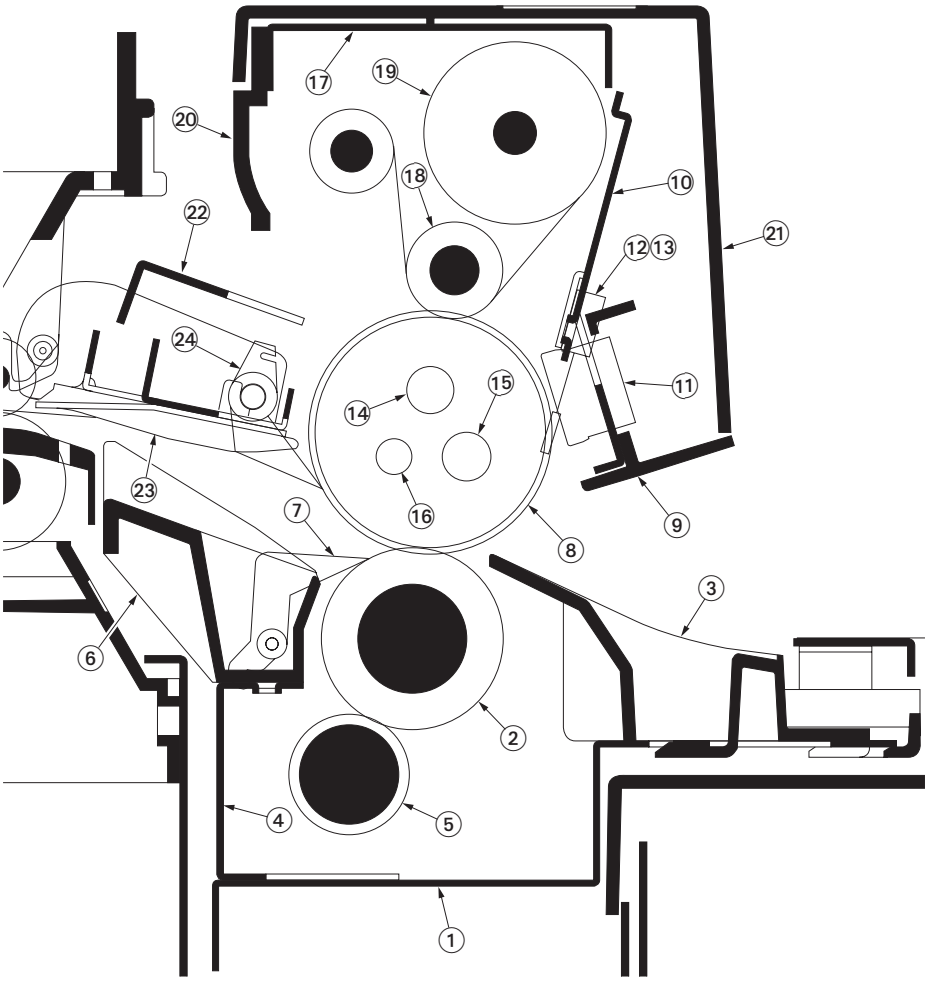


Figure 2-1-23 Fuser section

(1) Fuser base
(2) Press roller
(3) Fuser A front guide
(4) Fuser eject mount guide
(5) Lower cleaning roller
(6) Fuser eject lower guide
(7) Press roller separation claw
(8) Heat roller
(9) Fuser upper guide
(10) Fuser stay
(11) Fuser thermostat (FTS)
(12) Fuser thermistor M (FTH-M)
(13) Fuser thermistor S (FTH-S)
(14) Fuser heater L (FH-L)
(15) Fuser heater M (FH-M)
(16) Fuser heater S (FH-S)
(17) Fuser cleaning support plate
(18) Web pressure roller
(19) Cleaning felt
(20) Fuser cleaning cover
(21) Upper fuser cover
(22) Fuser eject upper plate
(23) Fuser eject upper guide
(24) Heat roller separation claw

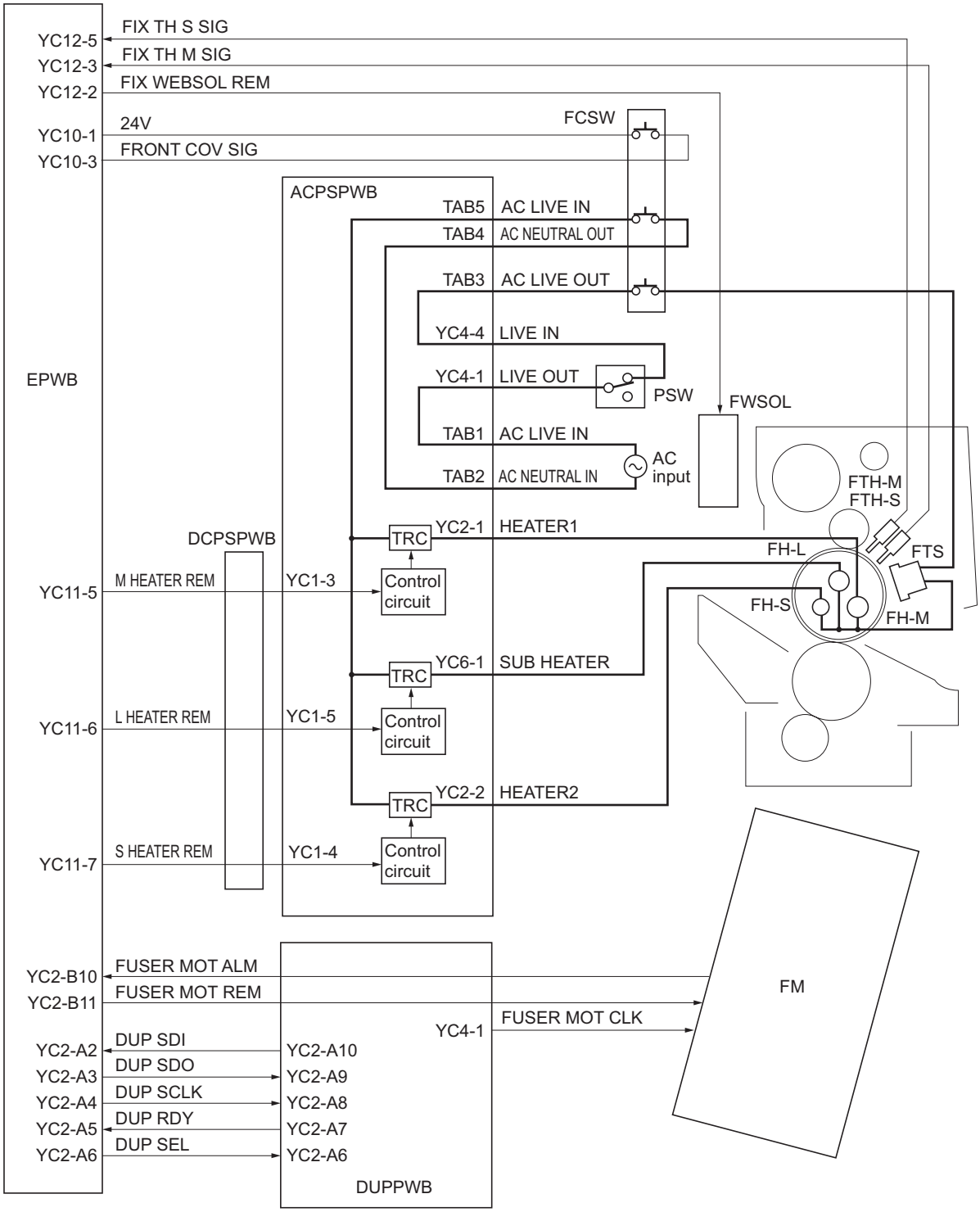


Figure 2-1-24 Fuser section block diagram

2-1-8 PTC section

The PTC section intends to reduce improperly charged toner by discharging on the toner developed onto the drum and to improve copy performance by decreasing adhesiveness of the toner onto the drum.
This increases adhesiveness of the toner onto the copied paper and prevents various poor images after copying.
The PTC charger unit has the PTC cleaning motor (PCLM), PTC cleaning pad for automatic cleaning of the charger wire.

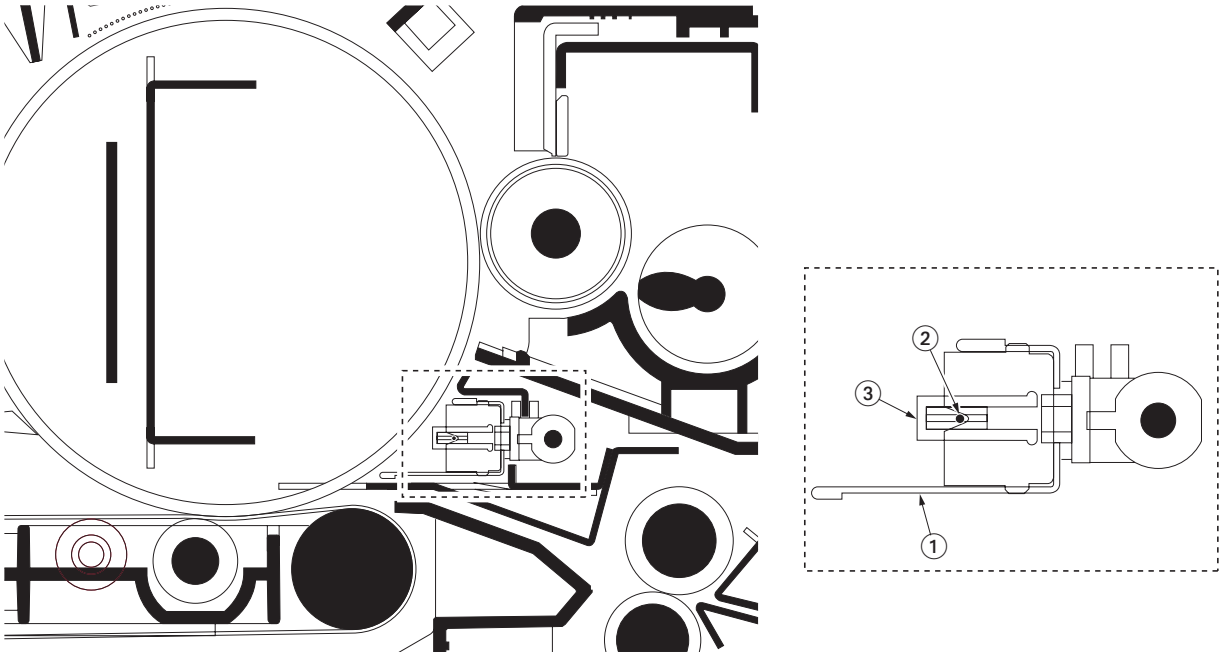
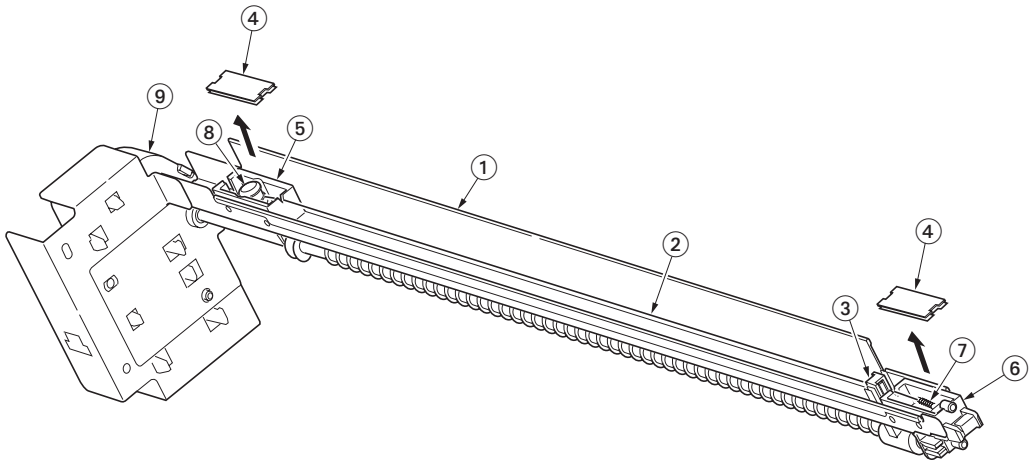


Figure 2-1-25 PTC section

(1) PTC shield
(2) PTC wire
(3) PTC cleaning holder



(1) PTC shield
(2) PTC wire
(3) PTC cleaning holder
(4) PTC housing lid
(5) PTC front housing
(6) PTC rear housing
(7) Charger spring
(8) Charger pin
(9) PTC cleaning motor (PCLM)

Figure 2-1-26 PTC unit

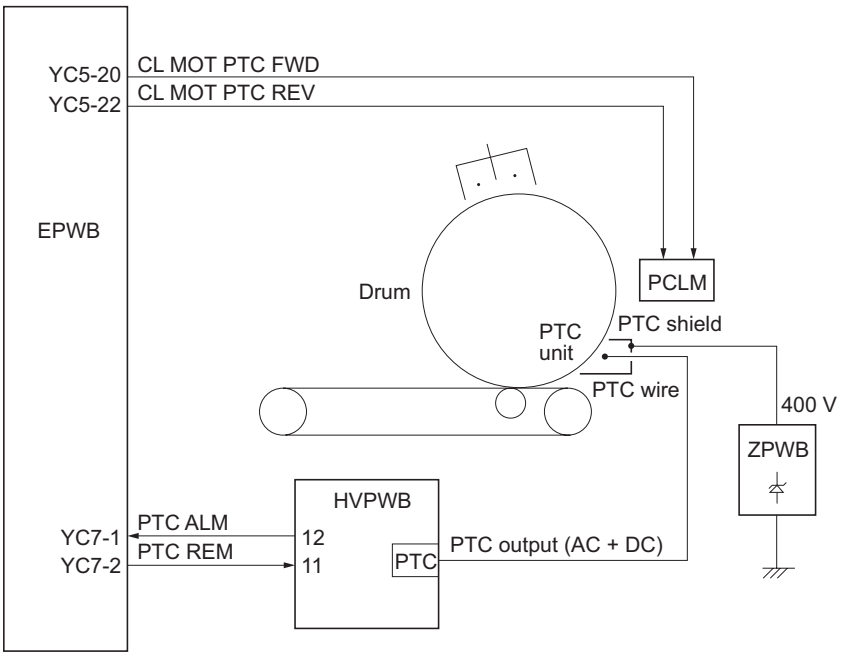


Figure 2-1-27 PTC section block diagram

2-1-9 Eject and feedshift section

The feedshift and eject sections switches the paper path by copy mode and eject paper or convey the paper to the duplex section.
For duplex copy mode, the paper for which copying on the rear side has been completed is conveyed to the duplex section by the feedshift section operation.
After the conveyed paper is inverted, it is fed again for front side copying.

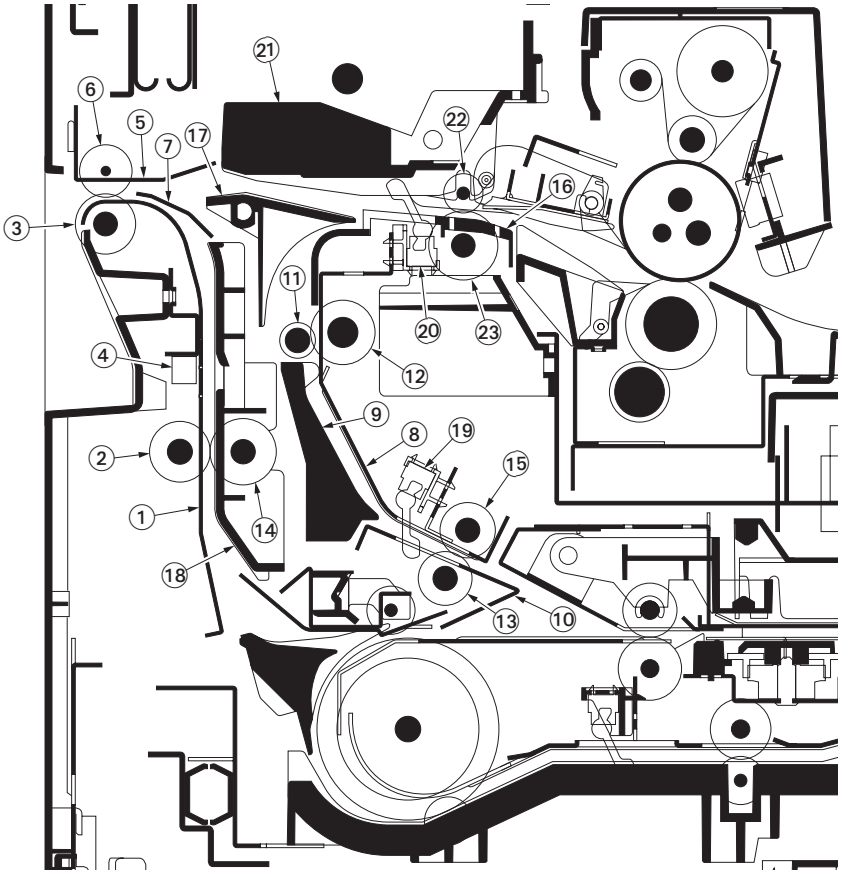


Figure 2-1-28 Eject and feedshift section

(1) Switchback left guide
(2) Switchback pulley
(3) Eject roller
(4) Switchback exit switch (SBESW)
(5) Eject upper guide
(6) Eject pulley
(7) Eject lower guide
(8) Feedshift lower right guide
(9) Feedshift middle left guide
(10) Feedshift lower left guide
(11) Feedshift left roller
(12) Feedshift right roller
(13) Feedshift lower right roller
(14) Switchback feed right roller
(15) Feedshift upper left roller
(16) Feedshift lower guide
(17) Feedshift guide
(18) Switchback right guide
(19) Feedshift switch (FSSW)
(20) Exit switch (ESW)
(21) Feedshift upper guide
(22) Fuser eject upper roller
(23) Fuser eject lower roller

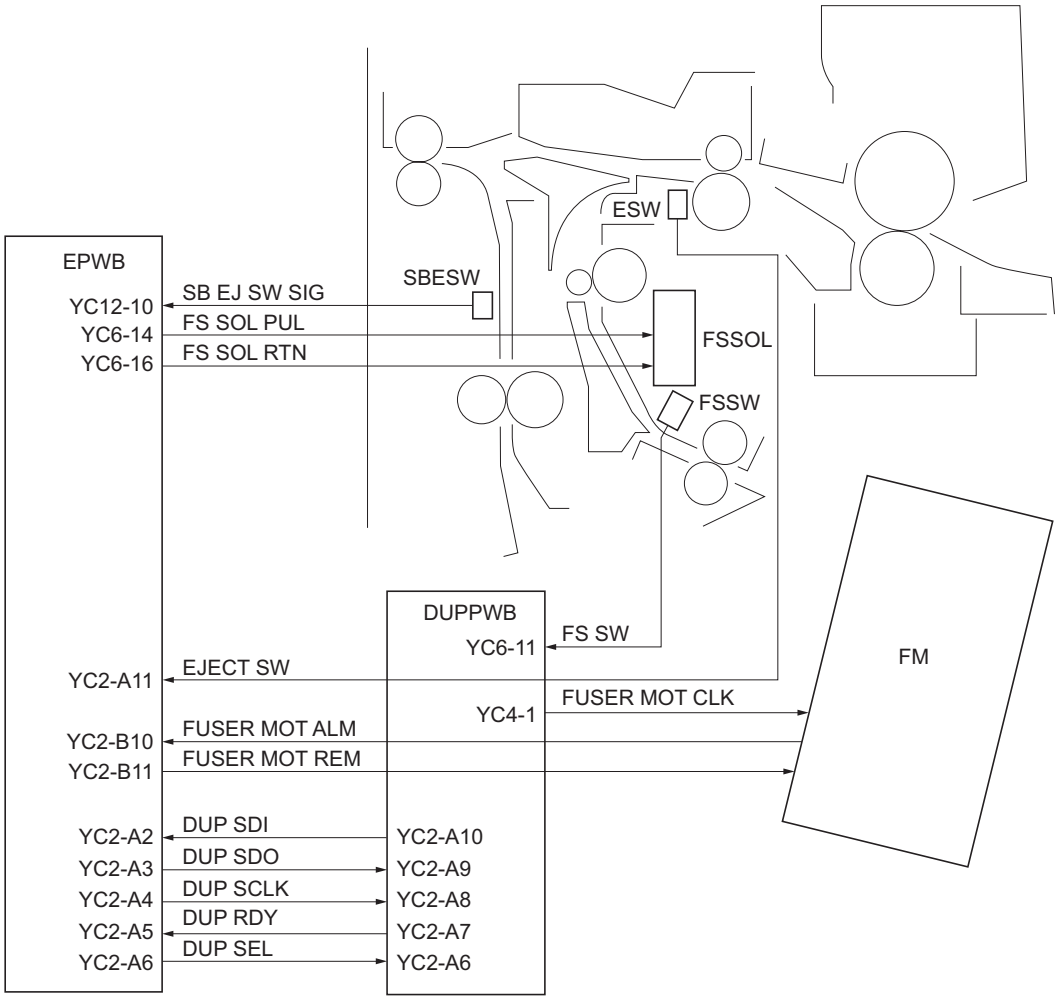


Figure 2-1-29 Eject and feedshift section block diagram

2-1-10 Duplex section

As paper is conveyed from the feedshift section into the duplex section, the DU switchback feedshift guide shifts the paper path to switch-back the paper for refeeding or reverse side ejection. The paper is then conveyed to the feedshift and eject section.

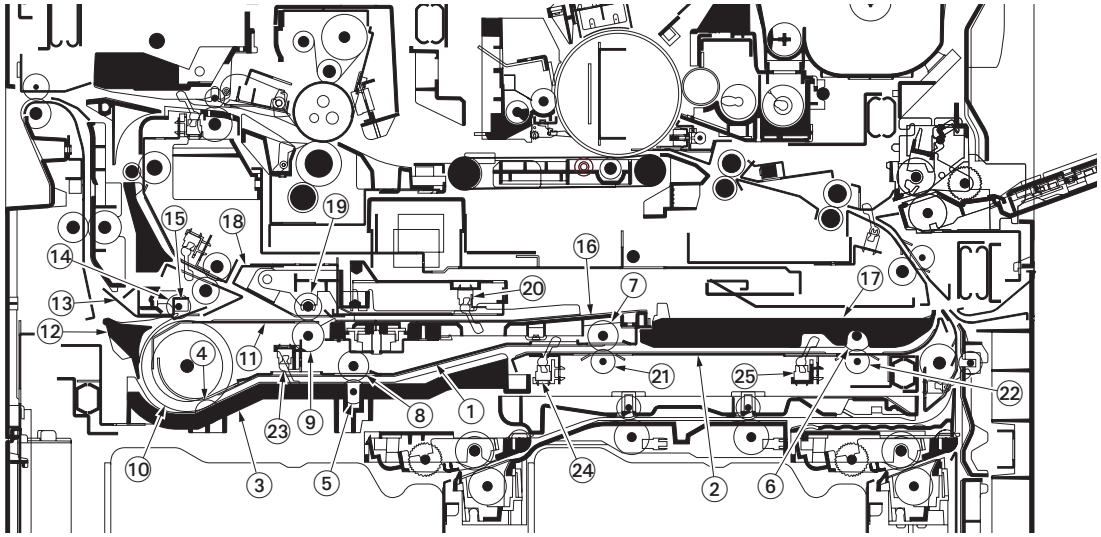


Figure 2-1-30 Duplex section

(1) DU conveying upper guide
(2) DU conveying lower guide
(3) DU lower guide
(4) Feed pulley
(5) Feed pulley
(6) DU conveying roller C
(7) DU conveying roller B
(8) DU conveying roller A
(9) DU switchback roller
(10) Refeed roller
(11) Feed reverse guide
(12) DU switchback feedshift guide
(13) DU refeed guide
(14) Conveying pulley
(15) Duplex feed switch (DUPFSW)
(16) Middle tray guide
(17) Middle tray right guide
(18) Reverse feed stay
(19) DU switchback pulley
(20) Duplex jam detection switch (DUPJSW)
(21) Feed pulley
(22) Feed pulley
(23) Duplex conveying switch 1 (DUPCSW1)
(24) Duplex conveying switch 2 (DUPCSW2)
(25) Duplex conveying switch 3 (DUPCSW3)

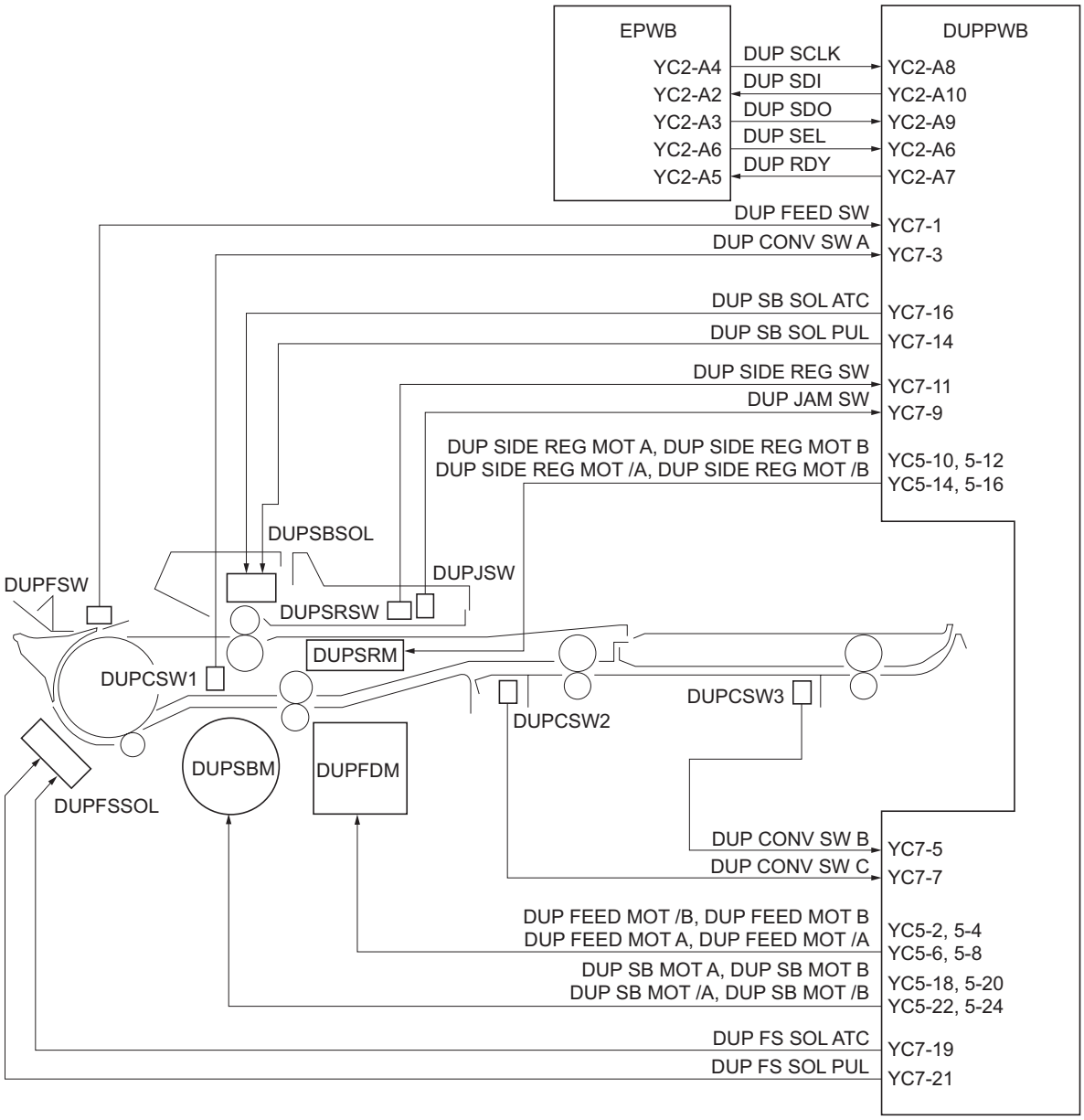


Figure 2-1-31 Duplex section block diagram

(1) Circulation system (4 sheets circulation)

- Start scanning the originals.
- First to fifth sheet of the originals are scanned front and back alternately (Scanning front and back simultaneously).
- After scanning one original (page 1 and 2), run parallel to this scanning, start feeding and print the front page.
- Take a little paper interval, feed the 1st, 2nd, 3rd sheet and print front side of each sheet (page 1, 3 and 5).

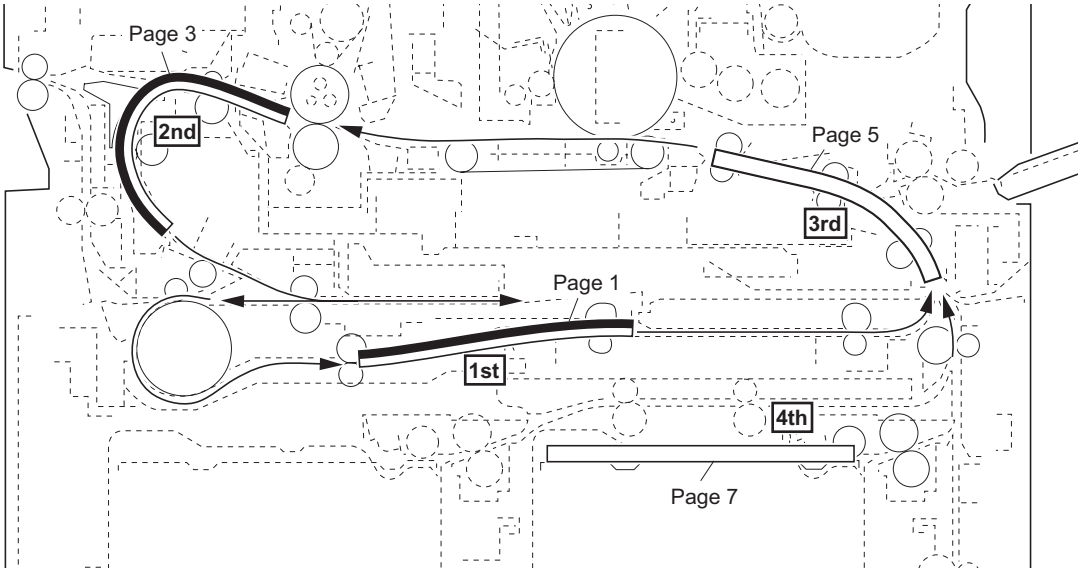


Figure 2-1-32 Circulation system (1)

- 4th sheet will be fed between 1st sheet and 2nd sheet.
- Back side of the first sheet, print page 2 → front side of the 4th sheet, print page 7 → back side of the 2nd sheet, print page 4 → feed 5th sheet (print page 9).
- After that print front and back alternately.

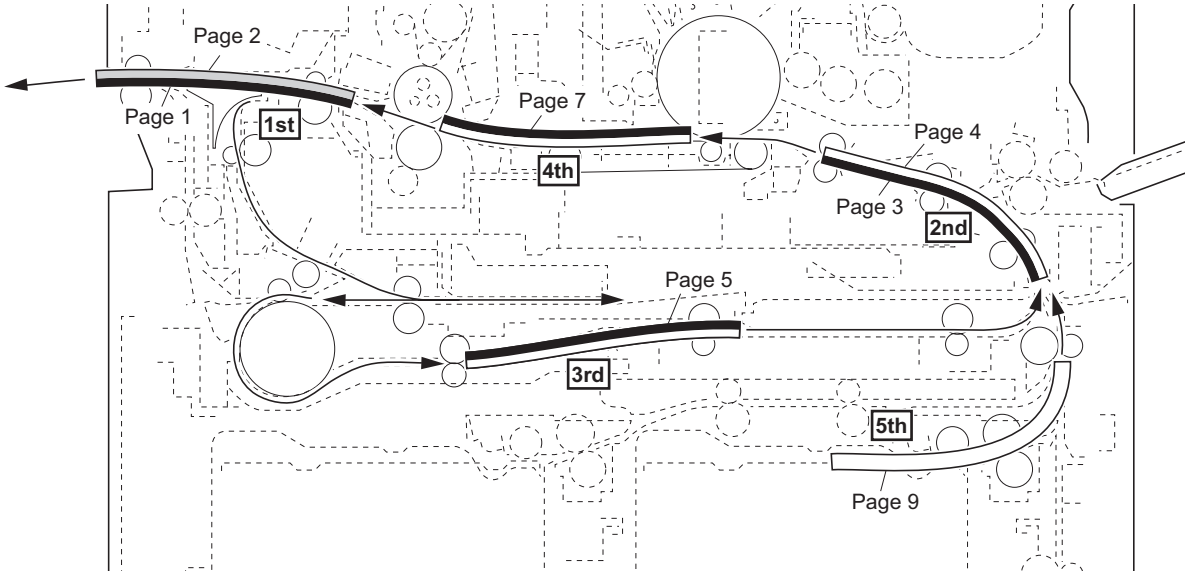


Figure 2-1-33 Circulation system (2)

2-1-11 Document processor (DP) section

The document processor (DP) section consists of the parts shown in the figure.
The original placed on the original table is fed sheet by sheet through the original feeding section and conveyed on the slit glass.
Shortly after one side is scanned by the CCD over the slit glass, the original is scanned by the CIS.
The original attached to the CIS with the CIS roller is ejected to the eject tray after the second side is scanned by the CIS.

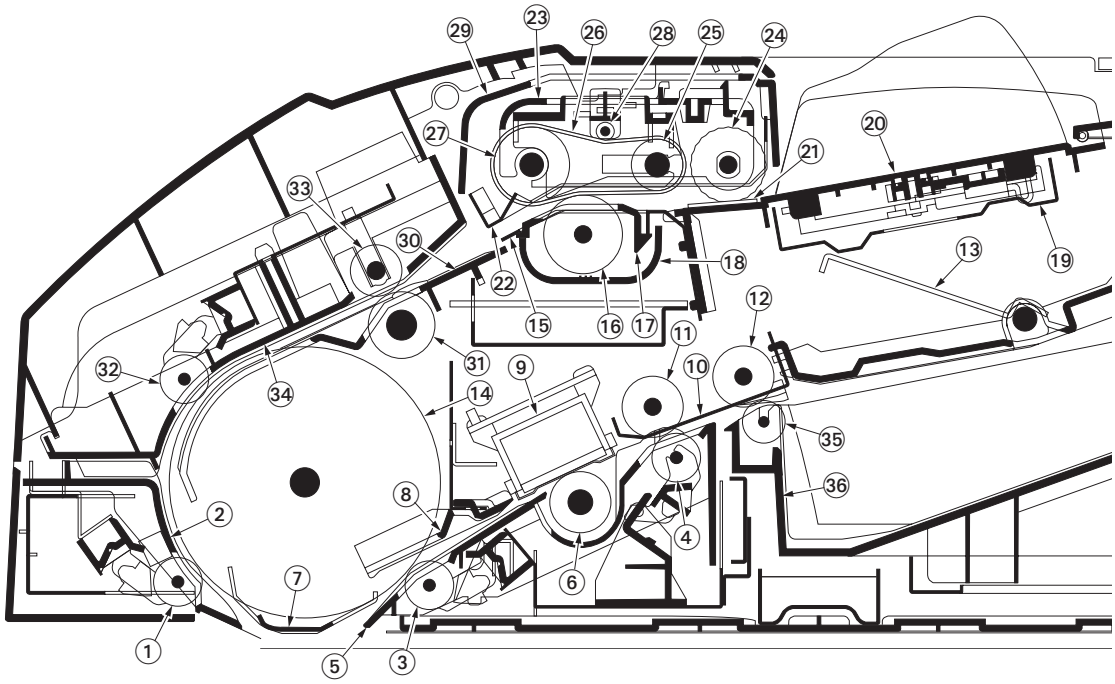


Figure 2-1-34 Document processor (DP) section

(1) Conveying pulley
(2) Conveying left guide
(3) Conveying pulley
(4) Conveying pulley
(5) Duplex guide
(6) CIS roller
(7) Reading guide
(8) CIS left guide
(9) CIS
(10) Eject guide
(11) Eject roller
(12) Eject roller
(13) Lift lever
(14) Conveying roller
(15) PF lower guide
(16) DP separation roller
(17) Separation guide
(18) Separation cover
(19) Cursor cover
(20) Lift table
(21) Lift pad
(22) PF upper guide
(23) LF holder
(24) DP forwarding pulley
(25) PF B collar
(26) DP original feed belt
(27) PF A collar
(28) Tension pulley
(29) PF cover
(30) Registration guide
(31) Registration roller
(32) Conveying pulley
(33) Registration pulley
(34) Cover guide C
(35) Eject pulley
(36) Eject tray

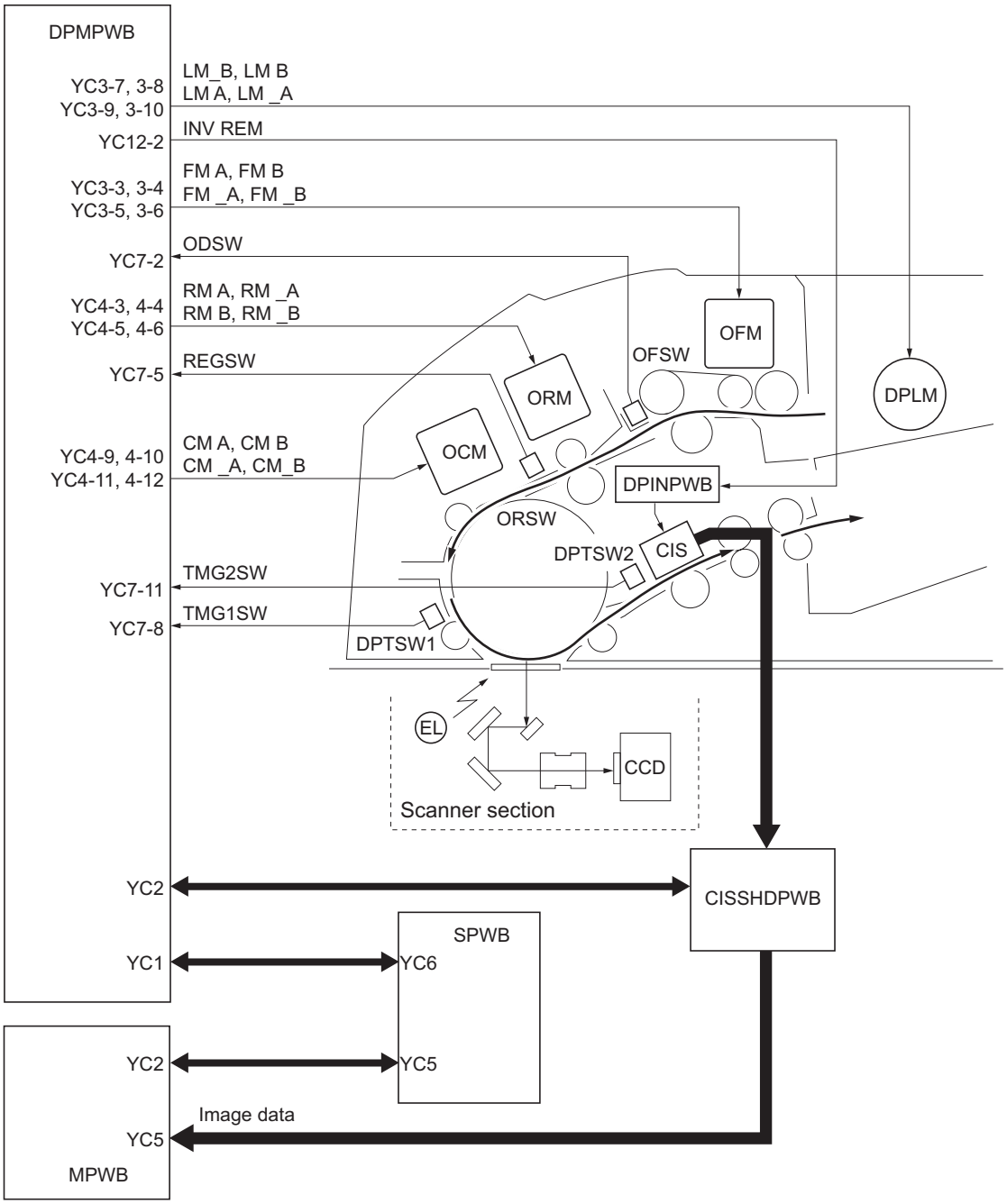


Figure 2-1-35 Document processor (DP) section block diagram

2-2-1 Electrical parts layout

(1) PWBs

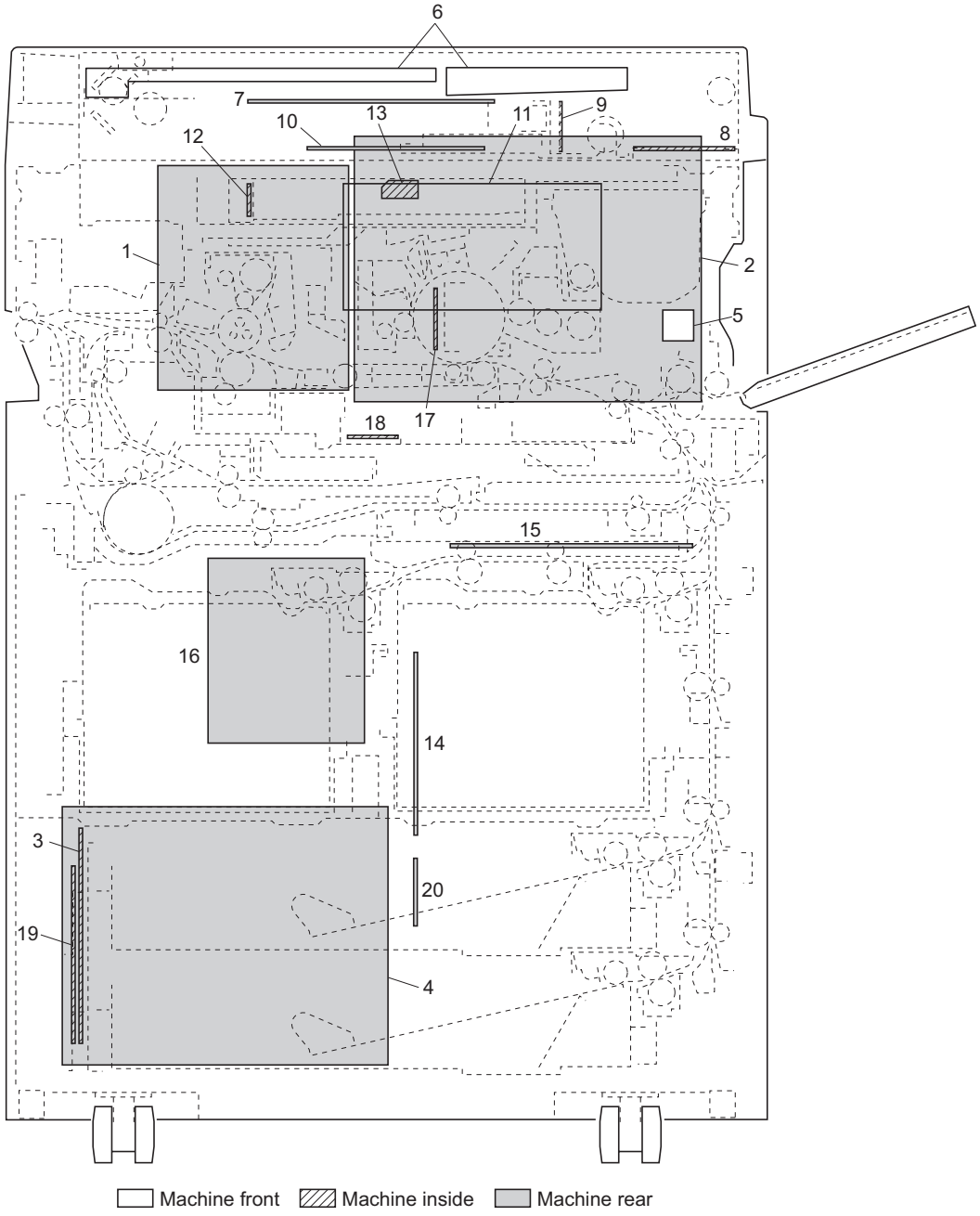


Figure 2-2-1 PWBs

1. Engine PWB (EPWB)..... Controls the other PWBs, electrical components and optional devices.
2. Main PWB (MPWB) ..... Controls the image processing, operation panel and laser scanner unit.
3. AC power source PWB (ACPSPWB)..... Controls fuser heater M, S, and L. Distributes AC power source.
4. DC power source PWB (DCPSPWB) ..... Generates 24 V DC, 12 V DC, 8 V DC and 5 V DC.
5. Zener PWB (ZPWB)..... Controls the PTC (charging) voltage.
6. Operation PWB(OPWB)..... Controls operation panel and LCD indication.
7. Scanner PWB (SPWB) ..... Controls the scanner section.
8. SHD PWB (SHDPWB)..... Controls the shading correction and AGC of CCD.
9. CCD PWB (CCDPWB)..... Reads the image of originals.
10. Inverter PWB (INPWB) ..... Controls the exposure lamp.

11. High voltage PWB (HVPWB) ..... Generates high voltage for main charging, PTC (charging), and developing bias.
12. APC PWB (APCPWB) ..... Generates and controls the laser beam.
13. PD PWB (PDPWB) ..... Defects horizontal synchronizing timing of laser beam.
14. Cassette PWB (CSPWB) ..... Controls the electrical components (cassette 3 and 4 section).
15. Deck PWB (DKPWB) ..... Controls the electrical components (cassette 1 and 2 section).
16. Duplex PWB (DUPPWB) ..... Controls the electrical components (duplex section).
17. Drum heater PWB (DRHPWB) ..... Controls the drum heater temperature.
18. Transfer high voltage PWB (THVPWB) ..... Generates high voltage for transfer bias.
19. Sub DC power source PWB (SDCPSPWB) ..... Generates 24 V DC for optional document finisher.
20. Fan motors drive PWB (FMDPWB) ..... Relays circuit between the engine PWB and each fan motor.

(2) Switches and sensors

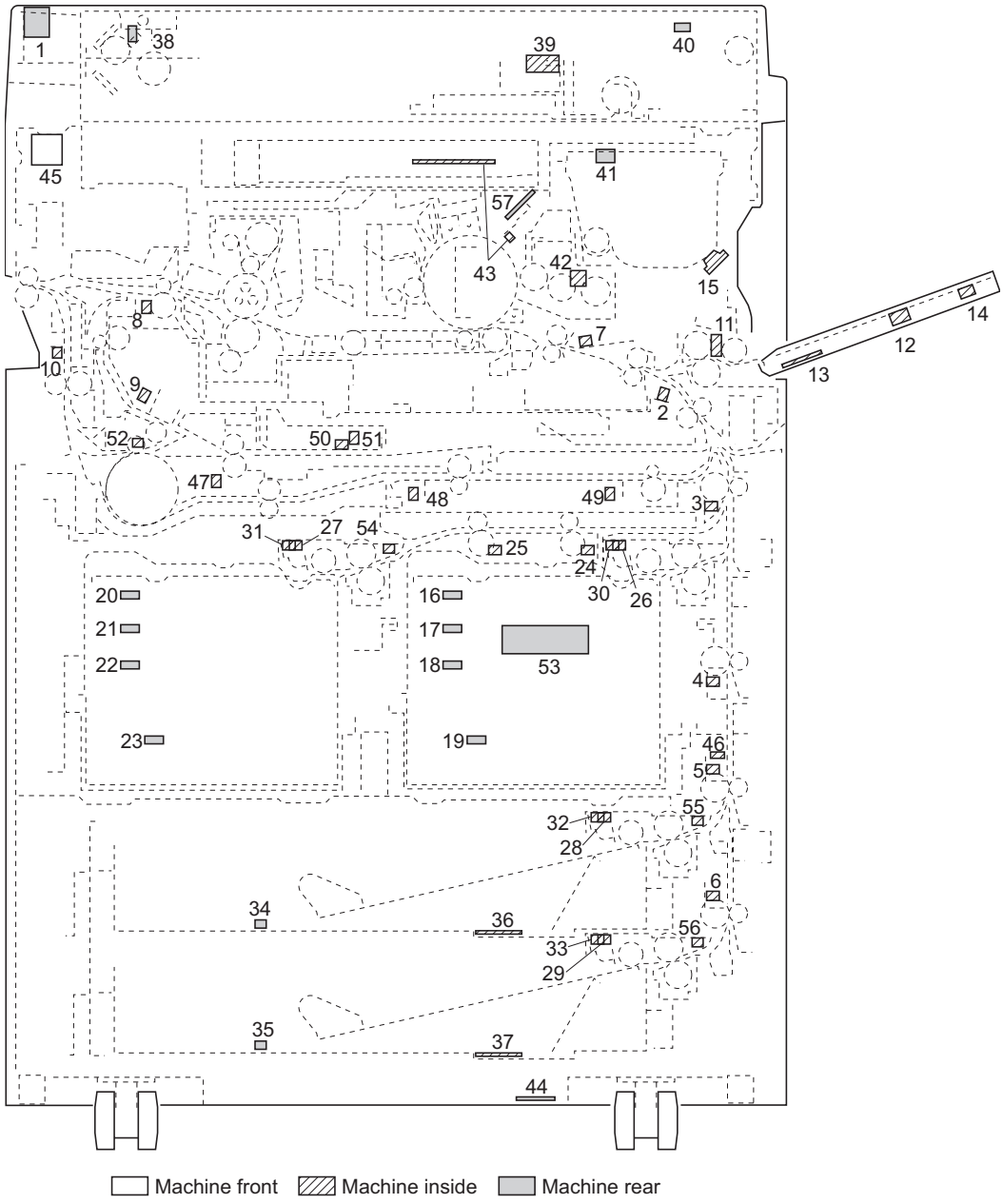


Figure 2-2-2 Switches and sensors

1. Main power switch (MSW) ..... Turns the AC power on and off.
2. Feed switch 1 (FSW1) ..... Detects a paper misfeed.
3. Feed switch 2 (FSW2) ..... Detects a paper misfeed.
4. Feed switch 3 (FSW3) ..... Detects a paper misfeed.
5. Feed switch 4 (FSW4) ..... Detects a paper misfeed.
6. Feed switch 5 (FSW5) ..... Detects a paper misfeed.
7. Registration switch (RSW)..... Controls the secondary paper feed stop timing.
8. Exit switch (ESW) ..... Detects a paper misfeed in the fuser section.
9. Feedshift switch (FSSW) ..... Detects a paper misfeed in the feedshift section.
10. Switchback exit switch (SBESW)..... Detects a paper misfeed in the switchback eject section.
11. MP paper empty switch (MPPESW) ..... Detects the presence of paper on the MP tray.
12. MP paper length size switch (MPPLSW) ..... Detects the length of paper on the MP tray.
13. MP paper width size switch (MPPWSW) ..... Detects the width of paper on the MP tray.
14. MP tray switch (MPTSW)..... Detects the MP tray extension is extend.

15. Toner container sensor (TCS)..... Detects the quantity of toner in a toner container.
16. Cassette 1 level sensor 1 (CAS1LS1) ..... Detects the paper level in cassette 1.
17. Cassette 1 level sensor 2 (CAS1LS2) ..... Detects the paper level in cassette 1.
18. Cassette 1 level sensor 3 (CAS1LS3) ..... Detects the paper level in cassette 1.
19. Cassette 1 detection sensor (CAS1DS)..... Detects the opening/closing of cassette 1.
20. Cassette 2 level sensor 1 (CAS2LS1) ..... Detects the paper level in cassette 2.
21. Cassette 2 level sensor 2 (CAS2LS2) ..... Detects the paper level in cassette 2.
22. Cassette 2 level sensor 3 (CAS2LS3) ..... Detects the paper level in cassette 2.
23. Cassette 2 detection sensor (CAS2DS)..... Detects the opening/closing of cassette 2.
24. Deck conveying switch 1 (DCSW1) ..... Detects a paper misfeed.
25. Deck conveying switch 2 (DCSW2) ..... Detects a paper misfeed.
26. Paper empty switch 1 (PESW1)..... Detects the presence of paper in cassette 1.
27. Paper empty switch 2 (PESW2)..... Detects the presence of paper in cassette 2.
28. Paper empty switch 3 (PESW3)..... Detects the presence of paper in cassette 3.
29. Paper empty switch 4 (PESW4)..... Detects the presence of paper in cassette 4.
30. Lift limit switch 1 (LILSW1)..... Detects the cassette 1 deck base reaching the upper limit.
31. Lift limit switch 2 (LILSW2)..... Detects the cassette 2 deck base reaching the upper limit.
32. Lift limit switch 3 (LILSW3)..... Detects the cassette 3 cassette operation plate reaching the upper limit.
33. Lift limit switch 4 (LILSW4)..... Detects the cassette 4 cassette operation plate reaching the upper limit.
34. Paper length size switch 1 (PLSW1)..... Detects the length of paper in cassette 3.
35. Paper length size switch 2 (PLSW2)..... Detects the length of paper in cassette 4.
36. Paper width size switch 1 (PWSW1)..... Detects the width of paper in cassette 3.
37. Paper width size switch 2 (PWSW2)..... Detects the width of paper in cassette 4.
38. Scanner home position switch (SHPSW)..... Detects the optical system in the home position.
39. Original size detection sensor (OSDS) ..... Detects the size of the original.
40. DP set detection switch (DPSDSW) ..... Detects the opening/closing of the DP.
41. Toner container detection switch
    (TCDSW) ..... Detects the presence of the toner container.
42. Developing sensor (DEVS)..... Detects the toner density in the developing unit.
43. Potential sensor (PTS)..... Detects the potential on the drum surface.
44. Humidity sensor (HUMS1) ..... Detects the outside temperature and humidity.
45. Front cover switch (FRCSW) ..... Breaks the safety circuit when the front cover is opened.
46. Right cover switch (RCSW) ..... Breaks the safety circuit when the right cover is opened.
47. Duplex conveying switch 1 (DUPCSW1) ..... Detects a paper misfeed.
48. Duplex conveying switch 2 (DUPCSW2) ..... Detects a paper misfeed.
49. Duplex conveying switch 3 (DUPCSW3) ..... Detects a paper misfeed.
50. Duplex side registration switch
    (DUPSRSW) ..... Operates the right and left side guides.
51. Duplex jam detection switch (DUPJSW)..... Detects a paper misfeed in the duplex paper feed section.
52. Duplex feed switch (DUPFSW)..... Detects a paper misfeed.
53. Waste toner sensor (WTS)..... Detects when the waste toner box is full.
54. Timing switch 1 (TIMSW1)..... Detects the cassette 2 paper feed timing.
55. Timing switch 2 (TIMSW2)..... Detects the cassette 3 paper feed timing.
56. Timing switch 3 (TIMSW3)..... Detects the cassette 4 paper feed timing.
57. Developing humidity sensor (HUMS2)..... Detects the temperature and humidity around the developing section.

(3) Motors

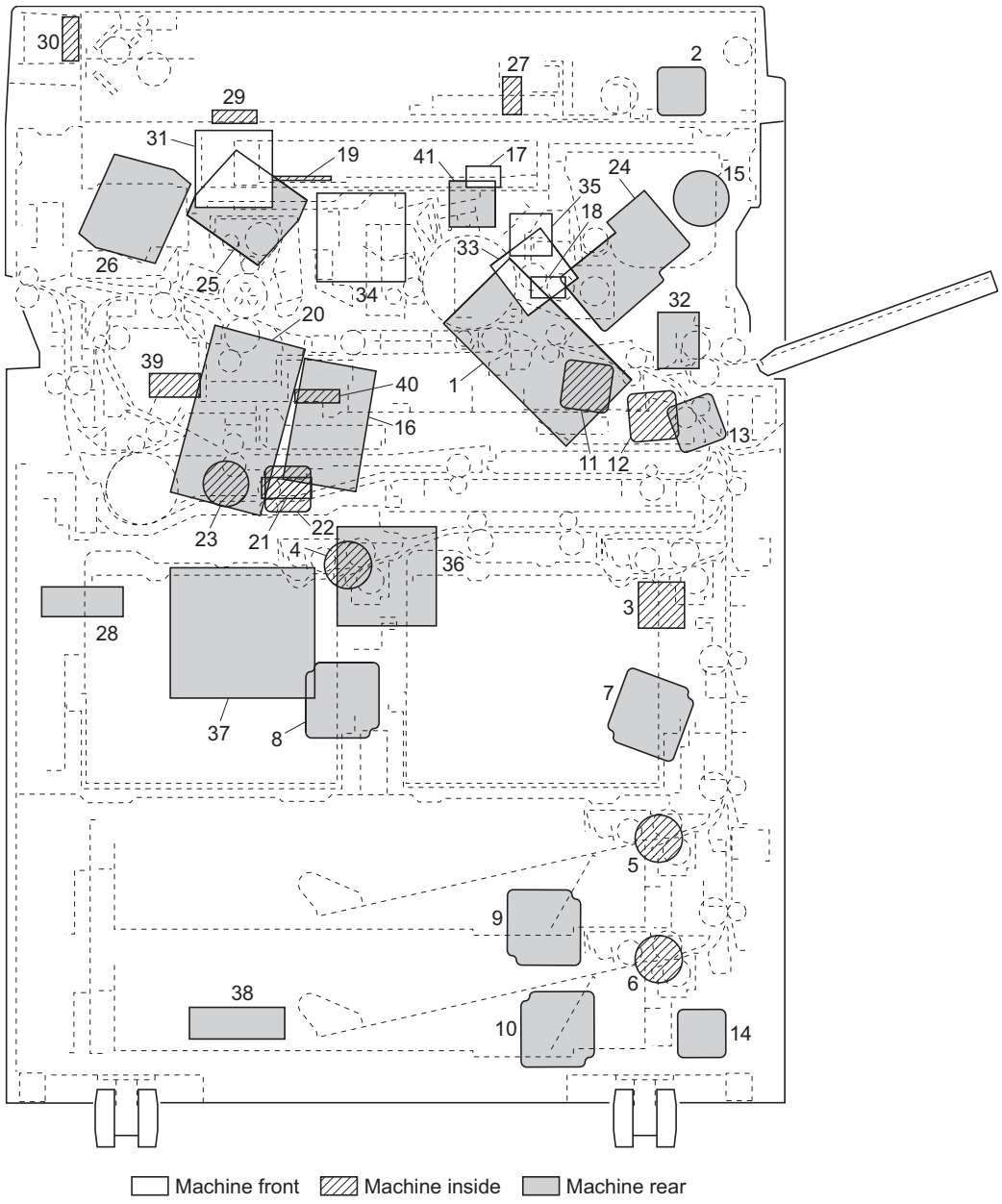


Figure 2-2-3 Motors

1. Drive motor (DM) ..... Drives the drum and cleaning unit.
2. Scanner motor (SM)..... Drives the optical system.
3. Paper feed motor 1 (PFM1) ..... Drives cassette 1 paper feed.
4. Paper feed motor 2 (PFM2) ..... Drives cassette 2 paper feed.
5. Paper feed motor 3 (PFM3) ..... Drives cassette 3 paper feed.
6. Paper feed motor 4 (PFM4) ..... Drives cassette 4 paper feed.
7. Lift motor 1 (LIM1)..... Operates the deck base in cassette 1 and detects the paper level in cassette 1.
8. Lift motor 2 (LIM2)..... Operates the deck base in cassette 2 and detects the paper level in cassette 2.
9. Lift motor 3 (LIM3)..... Operates the lift cassette lift plate.
10. Lift motor 4 (LIM4)..... Operates the lift cassette lift plate.
11. Registration motor (RM)..... Drives the registration rollers.
12. Feed motor (FDM) ..... Drives the paper feed section.
13. MP feed motor (MPFDM)..... Drives the MP tray paper feed section.
14. Vertical feed motor (VFDM) ..... Drives the vertical conveying section.

15. Toner motor (TM) ..... Replenishes toner.
16. Transfer motor (TRM) ..... Drives the transfer belt.
17. Cleaning motor (CLM)..... Cleans the main charger wire.
18. PTC cleaning motor (PCLM)..... Cleans the PTC wire.
19. Polygon motor (PM) ..... Drives the polygon mirror.
20. Fuser motor (FM) ..... Drives the fuser and eject feedshift sections.
21. Duplex side registration motor (DUPSRM) ..... Operates the duplex right and left side guides.
22. Duplex feed motor (DUPFDM)..... Drives duplex paper feed section.
23. Duplex switchback motor (DUPSBM) ..... Drives duplex switchback section.
24. Developing motor (DEVM)..... Drives the developing unit.
25. Cooling fan motor 1 (CFM1) ..... Cools the machine inside.
26. Cooling fan motor 2 (CFM2) ..... Cools the machine inside.
27. Cooling fan motor 3 (CFM3) ..... Cools the machine inside.
28. Cooling fan motor 4 (CFM4) ..... Cools the machine inside.
29. Scanner fan motor (SFM) ..... Cools the optical section.
30. Lamp fan motor (LFM) ..... Cools the optical section (around the exposure lamp).
31. LSU fan motor (LSUFM) ..... Cools the LSU section.
32. Developing fan motor 1 (DEVFM1)..... Cools the developing section.
33. Developing fan motor 2 (DEVFM2)..... Cools the developing section.
34. Image formation fan motor (IFFM)..... Cools the image formation section.
35. Developing duct fan motor (DEVDFM) ..... Cools the developing section.
36. PWB fan motor 1 (PWBFM1)..... Cools the machine rear side (around the duplex and cassette PWB).
37. PWB fan motor 2 (PWBFM2)..... Cools the machine inside.
38. Power source fan motor (PSFM) ..... Cools the DC power source PWB.
39. Feedshift fan motor (FSFM)..... Cools the feedshift section.
40. Duplex fan motor (DUPFM) ..... Cools the duplex section.
41. Shield box fan motor (SBFM)..... Cools the shield box inside (around the main PWB).

(4) Others

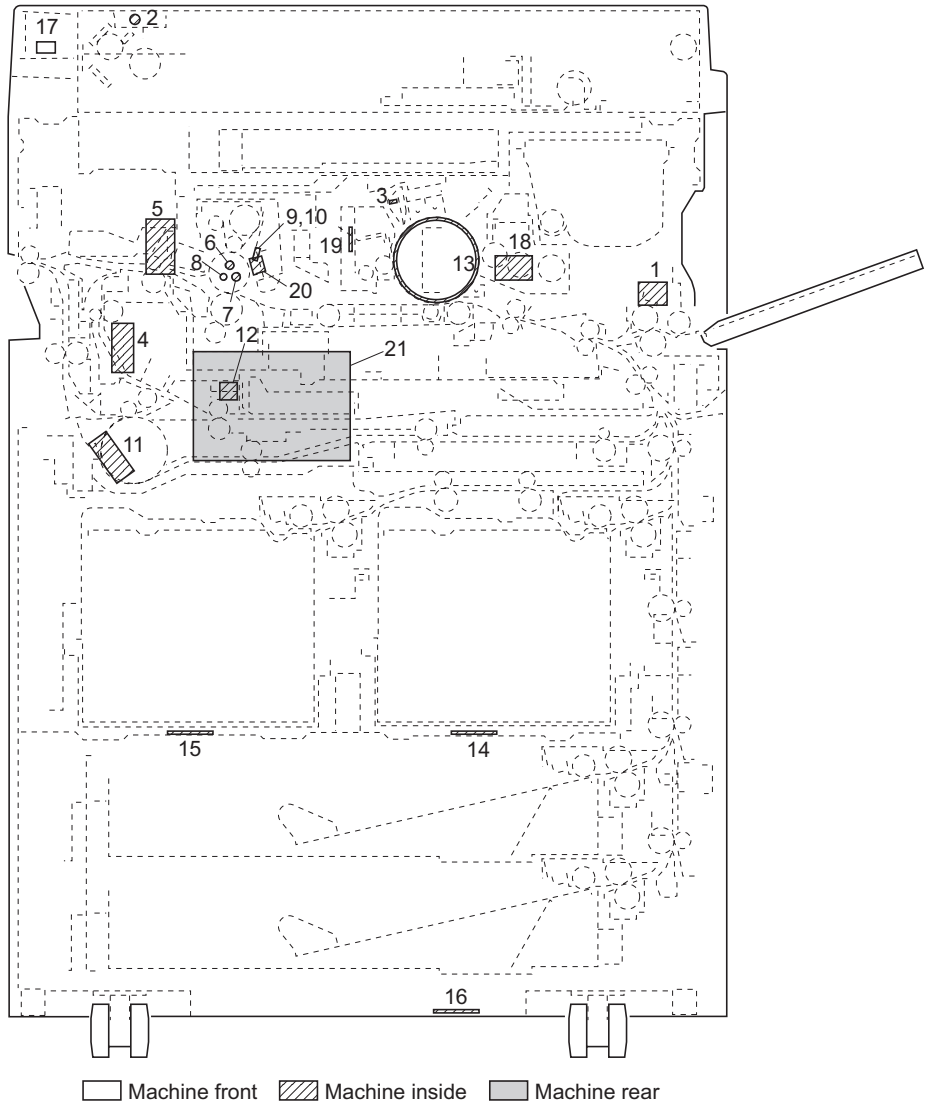


Figure 2-2-4 Others

1. MP solenoid (MPSOL) ..... Operates up/down of the MP forwarding pulley.
2. Exposure lamp (EL) ..... Exposes originals.
3. Cleaning lamp (CL) ..... Removes residual charge from the drum surface.
4. Feedshift solenoid (FSSOL)..... Operates the feedshift guide.
5. Fuser web solenoid (FWSOL)..... Drives the cleaning felt.
6. Fuser heater L (FH-L) ..... Heats the heat roller (for small size paper).
7. Fuser heater M (FH-M) ..... Heats the heat roller.
8. Fuser heater S(FH-S) ..... Heats the heat roller.
9. Fuser thermistor M (FTH-M) ..... Detects the heat roller temperature.
10. Fuser thermistor S (FTH-S) ..... Detects the heat roller temperature.
11. Duplex feedshift solenoid (DUPFSSOL)..... Operates the DU switchback feedshift guide.
12. Duplex switchback solenoid (DUPSBSOL)..... Operates up/down of the DU switchback roller.
13. Drum heater (DRH)..... Prevents drum condensation.
14. Drawer heater 1 (DH1)..... Dehumidifies the cassette 1 section.
15. Drawer heater 2 (DH2)..... Dehumidifies the cassette 2 section.
16. Drawer heater 3 (DH3)..... Dehumidifies the cassette 3 and 4 section.
17. Total counter (TC) ..... Displays the total number of copies produced.
18. Developing counter (DEVC)..... Stores the total number of developing unit operation.
19. Cleaning counter (CLC) ..... Stores the total number of cleaning unit operation.
20. Fuser thermostat (FTS)..... Prevents overheating in the fuser section.
21. Hard disk unit (HDD)..... Storages the image data and information of job accounting mode.

(5) PWBs (DP)

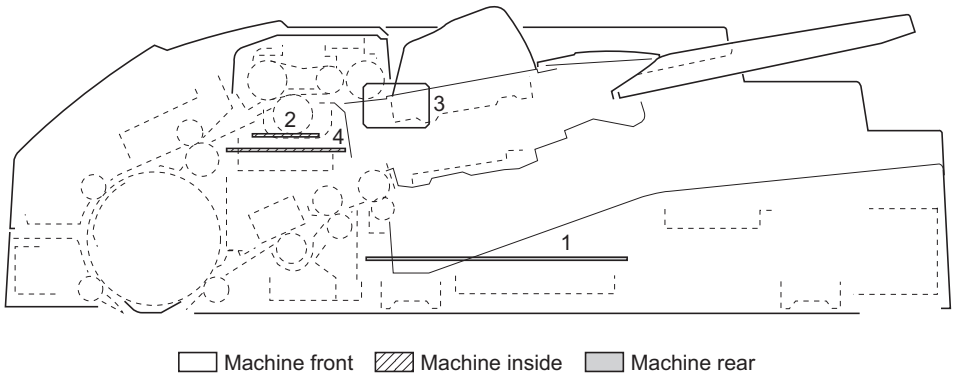


Figure 2-2-5 PWBs (DP)

1. DP main PWB (DPMPWB) ..... Controls electrical components of the document processor.
2. DP inverter PWB (DPINPWB)..... Controls the light source of built-in CIS.
3. LED PWB (LEDPWB) ..... Indicates presence of originals on the document processor or an original jam.
4. CIS SHD PWB (CISSHDPWB) ..... Controls the shading correction of CIS.

(6) Switches and sensors (DP)

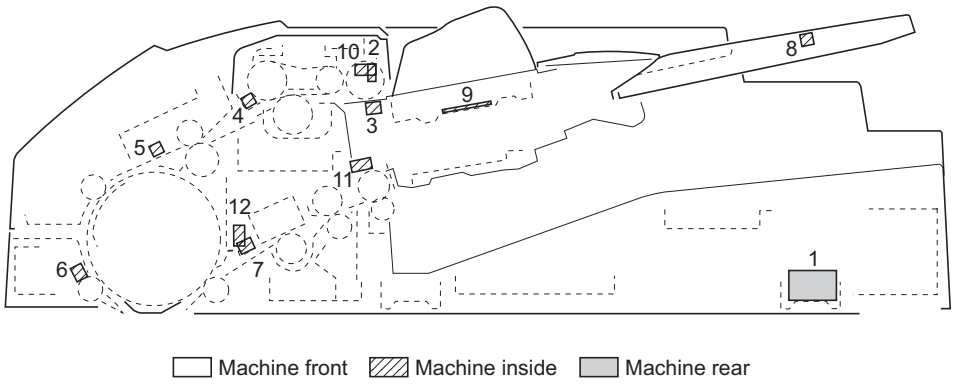


Figure 2-2-6 Switches and sensors (DP)

1. DP safety switch 1 (DPSSW1)..... Breaks the safety circuit when the document processor is opened; resets original misfeed detection.
2. DP safety switch 2 (DPSSW2)..... Breaks the safety circuit when the document processor top cover is opened; resets original misfeed detection.
3. Original set switch (OSSW) ..... Detects the presence of an original.
4. Original feed switch (OFSW) ..... Detects primary original feed end timing.
5. Original registration switch (ORSW) ..... Detects the original conveying timing.
6. DP timing switch 1 (DPTSW1)..... Detects the original scanning timing.
7. DP timing switch 2 (DPTSW2)..... Detects the original scanning timing.
8. Original length size switch (OLSW) ..... Detects the length of the original.
9. Original width size switch (OWSW) ..... Detects the width of the original.
10. DP lift upper limit switch (DPLULSW)..... Detects the lift table reaching the upper limit.
11. DP lift lower limit switch (DPLLLSW) ..... Detects the lift table reaching the lower limit.
12. CIS open/close switch (CISOCSW)..... Detects the opening/closing of the document processor bottom cover.

(7) Others (DP)

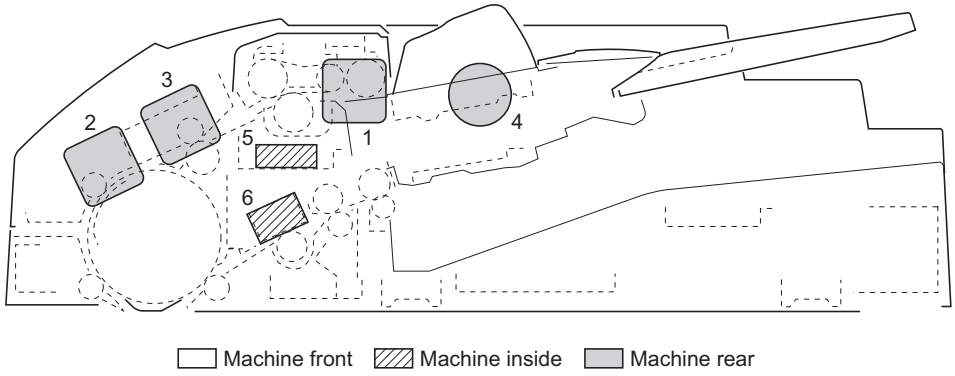


Figure 2-2-7 Others (DP)

1. Original feed motor (OFM)..... Drives the DP original feed belt.
2. Original conveying motor (OCM) ..... Drives the original conveying sections.
3. Original registration motor (ORM)..... Drives the registration roller.
4. DP lift motor (DPLIM)..... Operates the lift table.
5. DP fan motor (DPFM) ..... Cools the CIS.
6. CIS (CIS)..... Reads the image of originals.

2-3-1 AC power source PWB

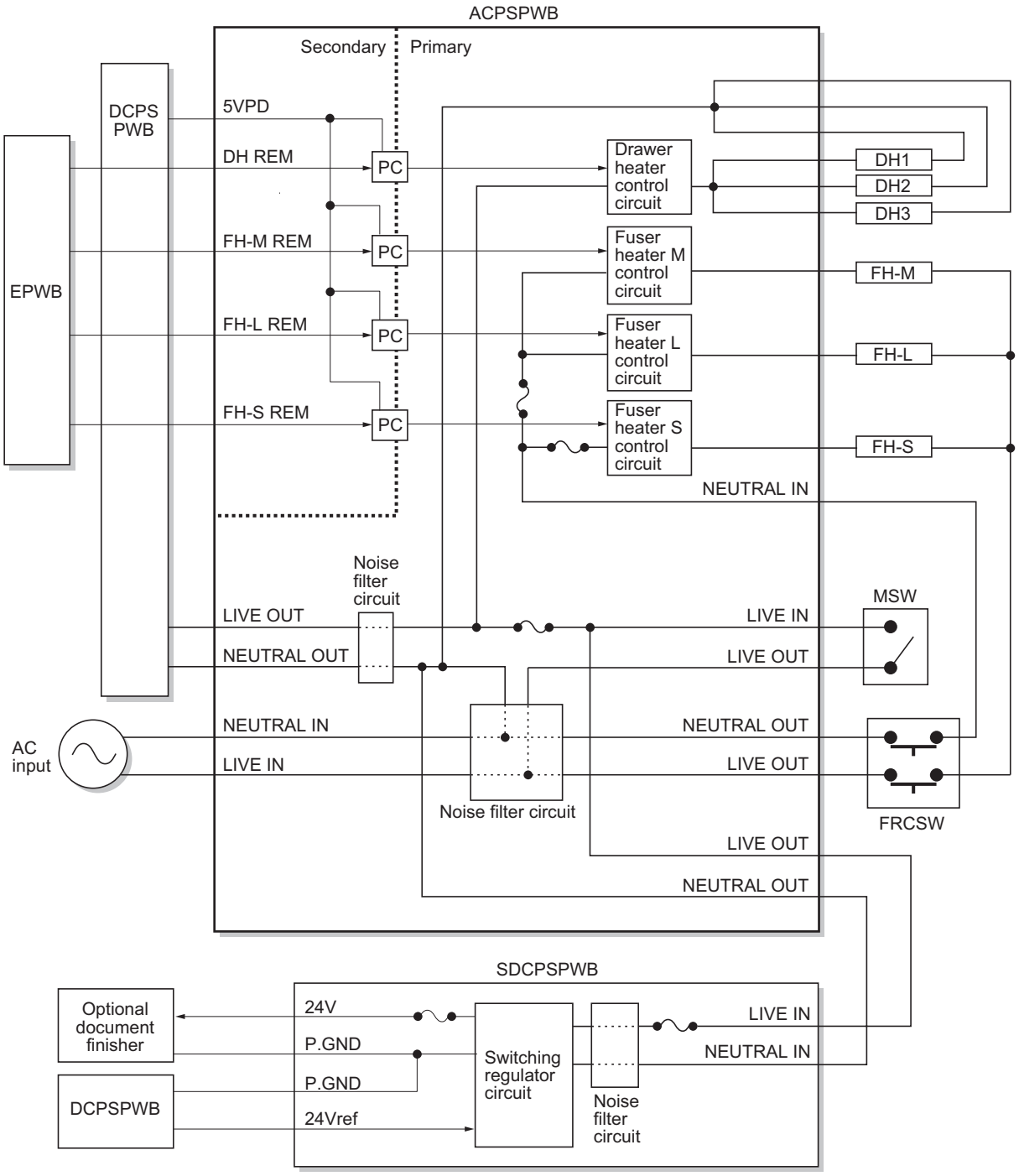
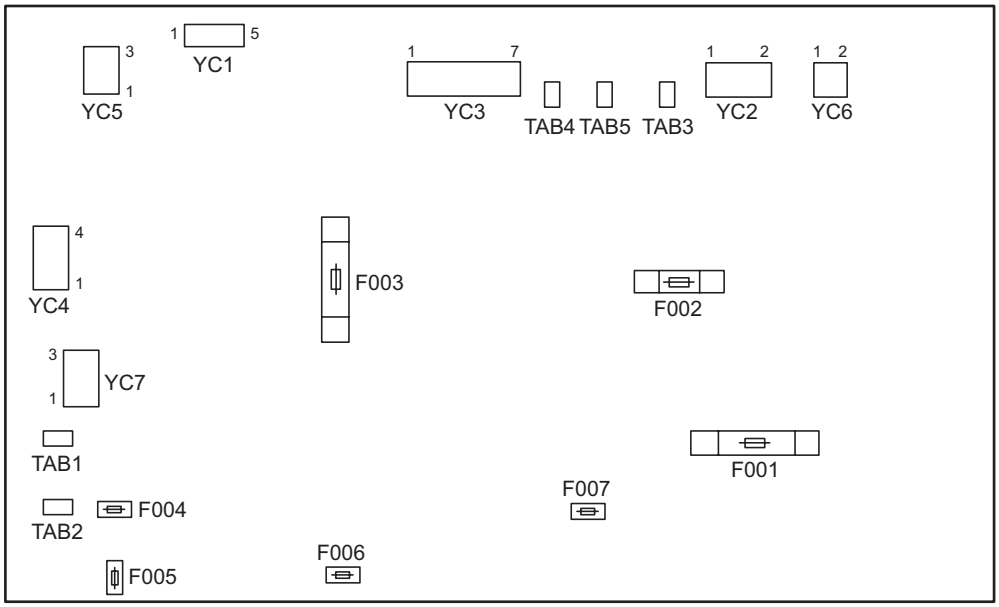


Figure 2-3-1 AC power source PWB block diagram

100V



200V

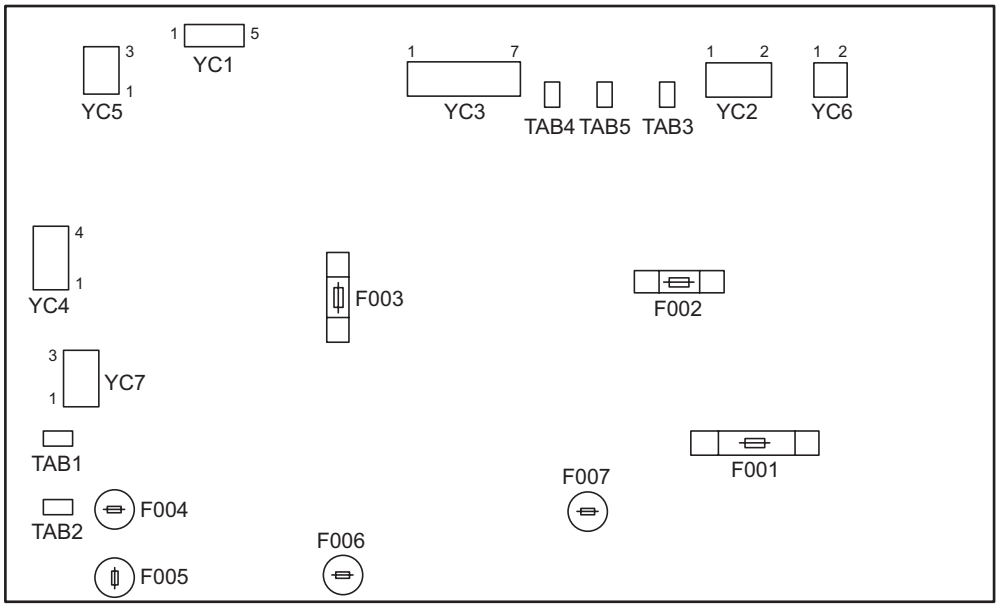


Figure 2-3-2 AC power source PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	5V PD	I	5 V DC	5 V DC power input
Connected to the DC power source PWB	2	CS HEATER	I	0/5 V DC	Drawer heater 1, 2 and 3: On/off
	3	HEATER1	I	0/5 V DC	Fuser heater M: On/off
	4	HEATER2	I	0/5 V DC	Fuser heater L: On/off
	5	SUB HEATER	I	0/5 V DC	Fuser heater S: On/off
YC2	1	HEATER1	O	120 V AC 220-240 V AC	AC power output for fuser heater M
Connected to the fuser heater M and L	2	HEATER2	O	120 V AC 220-240 V AC	AC power output for fuser heater L
YC3	1	CS HEATER1 LIVE	0	120 V AC 220-240 V AC	AC power output for drawer heater 1
Connected to the drawer heater 1, 2 and 3	2	CS HEATER2 LIVE	O	120 V AC 220-240 V AC	AC power output for drawer heater 2
	3	CS HEATER3 LIVE	O	120 V AC 220-240 V AC	AC power output for drawer heater 3
	4	N.C	-	-	Not used
	5	CS HEATER1 NEUTRAL	O	120 V AC 220-240 V AC	AC power output for drawer heater 1
	6	CS HEATER2 NEUTRAL	O	120 V AC 220-240 V AC	AC power output for drawer heater 2
	7	CS HEATER3 NEUTRAL	O	120 V AC 220-240 V AC	AC power output for drawer heater 3
YC4	1	LIVE OUT	O	120 V AC 220-240 V AC	AC power output
Connected to the main power switch	2	-	-	-	Not used
	3	-	-	-	Not used
	4	LIVE IN	I	120 V AC 220-240 V AC	AC power input (via main power switch)
YC5	1	AC LIVE OUT	O	120 V AC 220-240 V AC	AC power output
Connected to the DC power source PWB	2	-	-	-	Not used
	3	AC NEUTRAL OUT	O	120 V AC 220-240 V AC	AC power output
YC6	1	SUB HEATER	O	120 V AC 220-240 V AC	AC power output for fuser heater S
Connected to the fuser heater S	2	N.C	-	-	Not used
YC7	1	AC LIVE OUT	O	120 V AC 220-240 V AC	AC power output
Connected to the sub DC power source PWB	2	N.C	-	-	Not used
	3	AC NEUTRAL OUT	O	120 V AC 220-240 V AC	AC power output
TAB	1	AC LIVE IN	I	120 V AC 220-240 V AC	AC power input
Connected to the AC inlet and front cover switch	2	AC NEUTRAL IN	I	120 V AC 220-240 V AC	AC power input
	3	AC LIVE OUT	O	120 V AC 220-240 V AC	AC power output for front cover switch
	4	AC NEUTRAL OUT	O	120 V AC 220-240 V AC	AC power output for front cover switch
	5	AC NEUTRAL IN	I	120 V AC 220-240 V AC	AC power input (via front cover switch)

2-3-2 DC power source PWB

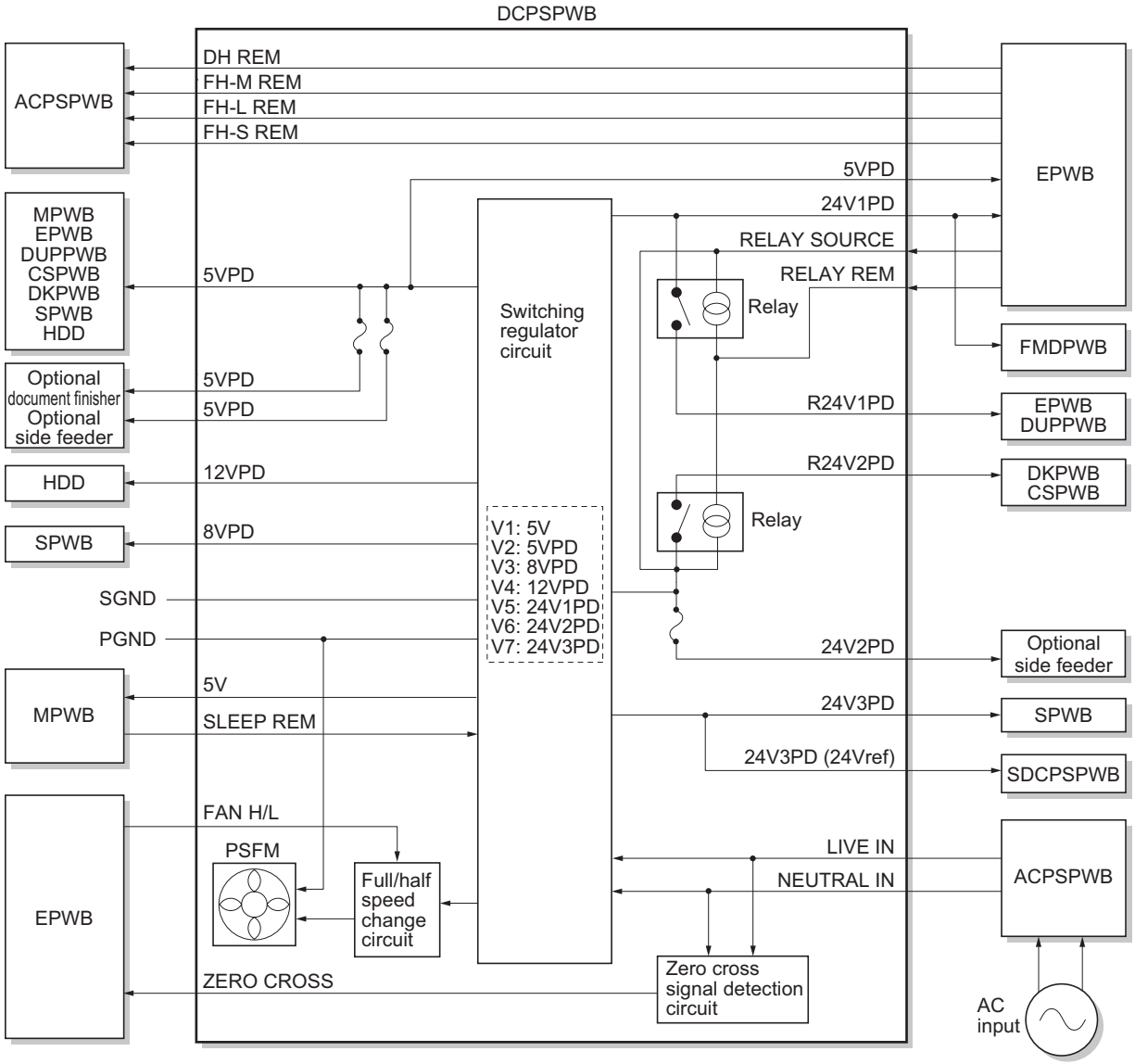
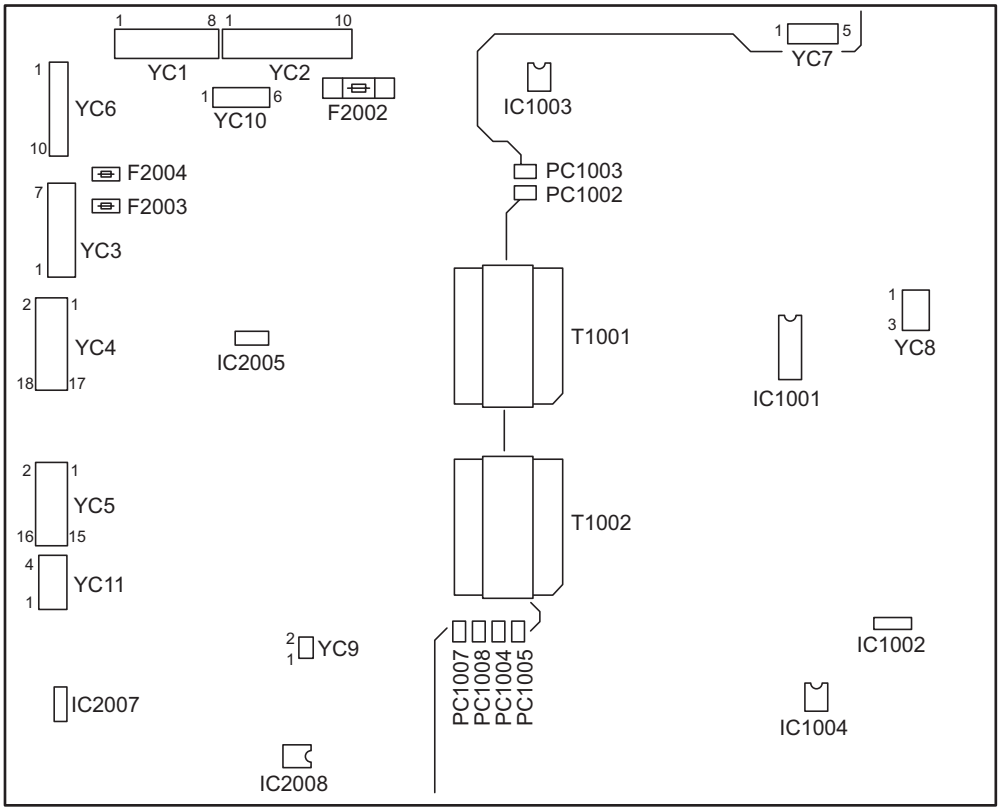


Figure 2-3-3 DC power source PWB block diagram

100V



200V

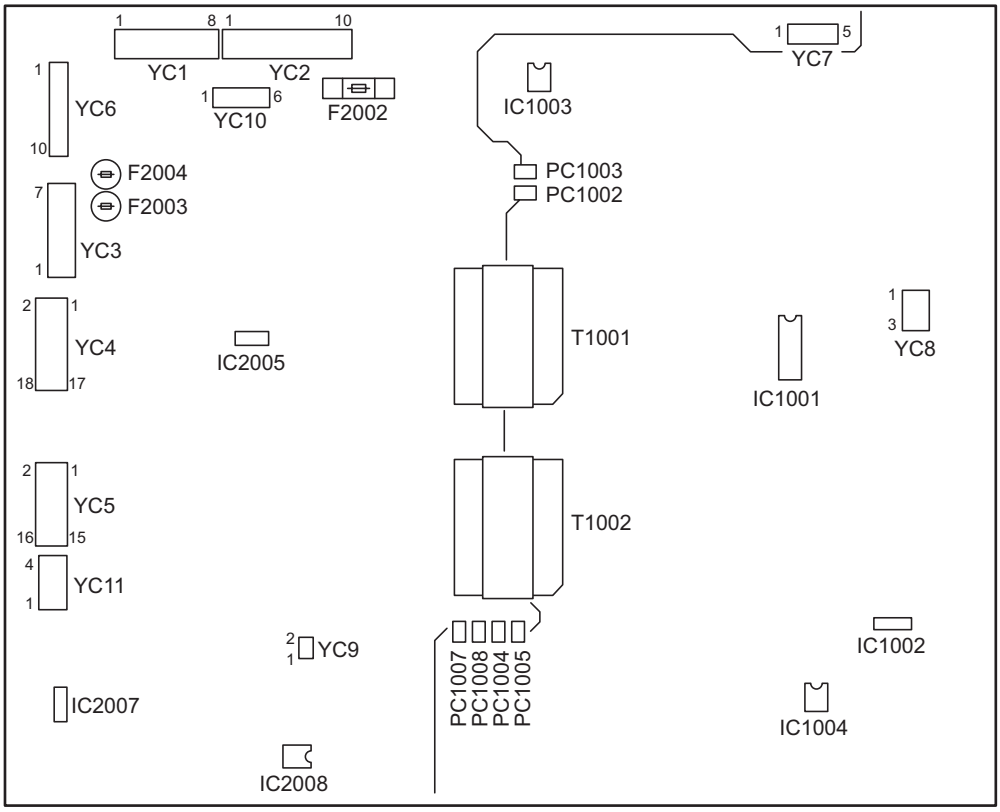


Figure 2-3-4 DC power source PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V	O	24 V DC	24 V DC power output
Connected to the scanner PWB	2	24V	O	24 V DC	24 V DC power output
	3	PGND	-	-	Power ground
	4	PGND	-	-	Power ground
	5	S5V	O	5 V DC	5 V DC power output
	6	SGND	-	-	Power ground
	7	SGND	-	-	Power ground
	8	8V	O	8 V DC	8 V DC power output
YC2	1	SGND	-	-	Signal ground for engine PWB
Connected to the PWBs and optional side feeder	2	PGND	-	-	Power ground for engine PWB
	3	PGND	-	-	Power ground for cassette PWB
	4	PGND	-	-	Power ground for deck PWB
	5	PGND	-	-	Power ground for duplex PWB
	6	PGND	-	-	Power ground for sub DC power source PWB
	7	24V	O	24 V DC	24 V DC power output for sub DC power source PWB
	8	24V	O	24 V DC	24 V DC power output for optional side feeder
	9	PGND	-	-	Power ground for optional side feeder
	10	24V	O	24 V DC	24 V DC power output for engine PWB and fan motors drive PWB
YC3	1	S5V	O	5 V DC	5 V DC power output for engine PWB
Connected to the PWBs, optional side feeder and optional document finisher	2	R24V	O	24 V DC	24 V DC power output for deck PWB
	3	R24V	O	24 V DC	24 V DC power output for duplex PWB
	4	R24V	O	24 V DC	24 V DC power output for engine PWB
	5	R24V	O	24 V DC	24 V DC power output for cassette PWB
	6	S5V	O	5 V DC	5 V DC power output for optional document finisher
	7	S5V	O	5 V DC	5 V DC power output for optional side feeder
YC4	1	SGND	-	-	Signal ground for main PWB
Connected to the PWBs	2	SGND	-	-	Signal ground for main PWB
	3	SGND	-	-	Signal ground for main PWB
	4	SGND	-	-	Signal ground for main PWB
	5	SGND	-	-	Signal ground for main PWB
	6	SGND	-	-	Signal ground for main PWB
	7	SGND	-	-	Signal ground for main PWB
	8	SGND	-	-	Signal ground for main PWB
	9	SGND	-	-	Signal ground
	10	SGND	-	-	Signal ground
	11	SGND	-	-	Signal ground
	12	SGND	-	-	Signal ground
	13	SGND	-	-	Signal ground for duplex PWB
	14	SGND	-	-	Signal ground for deck PWB
	15	SGND	-	-	Signal ground for cassette PWB
	16	SGND	-	-	Signal ground for engine PWB
	17	24V	O	24 V DC	24 V DC power output for main PWB
	18	PGND	-	-	Power ground for main PWB
YC5	1	5V	O	5 V DC	5 V DC power output for main PWB
Connected to the PWBs	2	5V	O	5 V DC	5 V DC power output for main PWB
	3	5V	O	5 V DC	5 V DC power output for main PWB
	4	5V	O	5 V DC	5 V DC power output for main PWB
	5	5V	O	5 V DC	5 V DC power output for main PWB
	6	5V	O	5 V DC	5 V DC power output for main PWB
	7	5V	O	5 V DC	5 V DC power output for main PWB
	8	5V	O	5 V DC	5 V DC power output
	9	5V	O	5 V DC	5 V DC power output
	10	5V	O	5 V DC	5 V DC power output
	11	S5V	O	5 V DC	5 V DC power output for main PWB

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	12	S5V	O	5 V DC	5 V DC power output for main PWB
Connected to the PWBs	13	S5V	O	5 V DC	5 V DC power output
	14	S5V	O	5 V DC	5 V DC power output for cassette PWB
	15	S5V	O	5 V DC	5 V DC power output for duplex PWB
	16	S5V	O	5 V DC	5 V DC power output for deck PWB
YC6	1	RELAY SOURCE	I	24 V DC	24 V DC power output (via front cover switch/right cover switch)
Connected to the engine PWB and main PWB	2	RELAY REM	I	0/24 V DC	Relay control signal
	3	ZEROCROSS	O	0/5 V DC (pulse)	Zero cross signal
	4	SLEEP	I	0/5 V DC	Sleep control signal
	5	PS FAN H/L	I	0/5 V DC	Power source fan motor: Full speed/half speed
	6	CS HEATER	I	0/5 V DC	Drawer heater 1, 2 and 3: On/off
	7	HEATER1	I	0/5 V DC	Fuser heater M: On/off
	8	HEATER2	I	0/5 V DC	Fuser heater L: On/off
	9	SUB HEATER	I	0/5 V DC	Fuser heater S: On/off
	10	N.C	-	-	Not used
YC7	1	S5V	O	5 V DC	5 V DC power output
Connected to the AC power source PWB	2	CS HEATER	O	0/5 V DC	Drawer heater 1, 2 and 3: On/off
	3	HEATER1	O	0/5 V DC	Fuser heater M: On/off
	4	HEATER2	O	0/5 V DC	Fuser heater L: On/off
	5	SUB HEATER	O	0/5 V DC	Fuser heater S: On/off
YC8	1	AC LIVE IN	I	120 V AC 220-240 V AC	AC power input
Connected to the AC power source PWB	2	-	-	-	Not used
	3	AC NEUTRAL IN	I	120 V AC 220-240 V AC	AC power input
YC9	1	PS FAN SOURCE	O	24 V DC	24 V DC power output
Connected to the power source fan motor	2	PGND	-	-	Power ground
YC10	1	5V	O	5 V DC	5 V DC power output
Connector	2	5V	O	5 V DC	5 V DC power output
	3	SGND	-	-	Signal ground
	4	SGND	-	-	Signal ground
	5	24V	O	24 V DC	24 V DC power output
	6	PGND	-	-	Power ground
YC11	1	S12V	O	12 V DC	12 V DC power output
Connected to the hard disk	2	SGND	-	-	Signal ground
	3	SGND	-	-	Signal ground
	4	5V	O	5 V DC	5 V DC power output

2-3-3 Main PWB

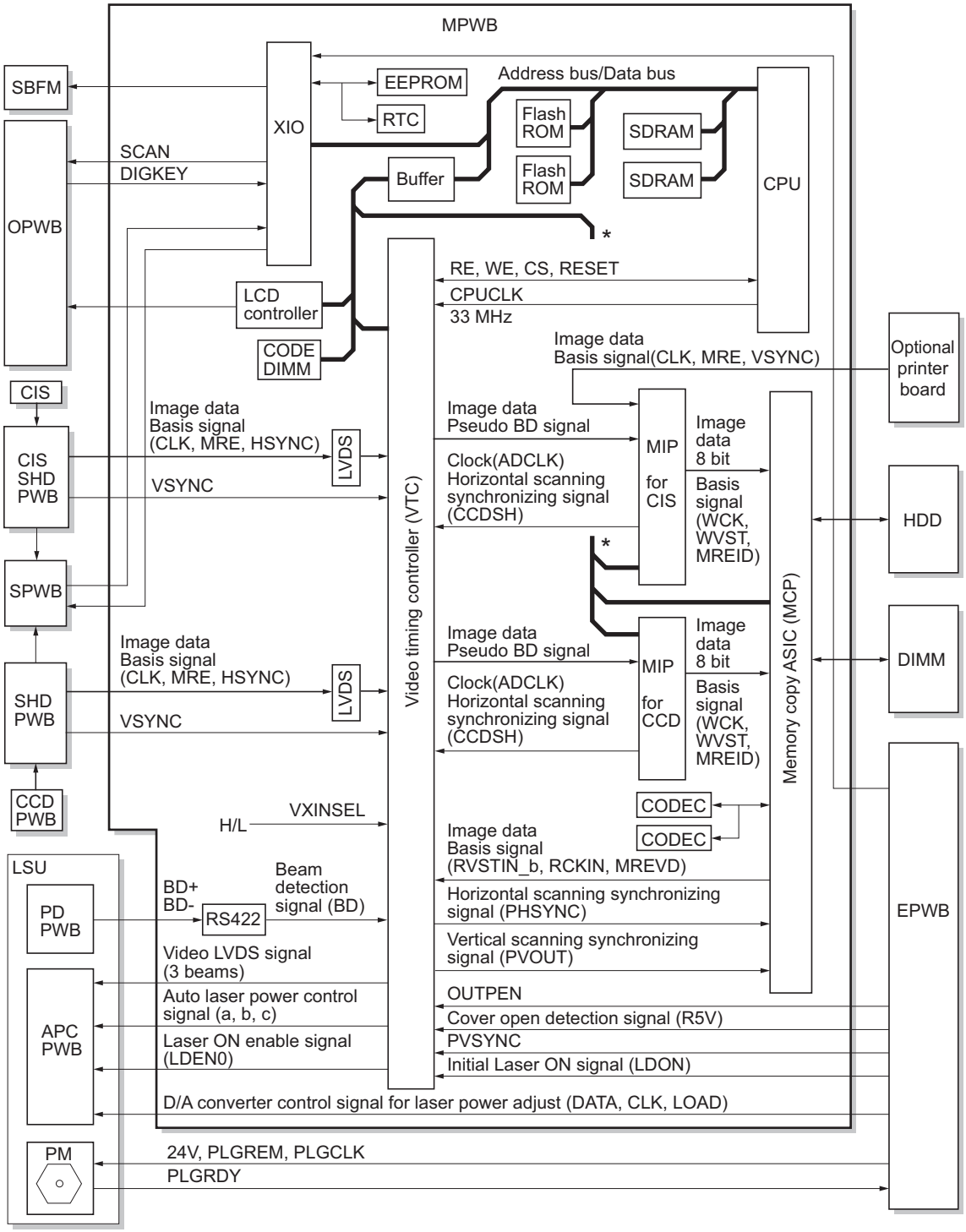


Figure 2-3-5 Main PWB block diagram

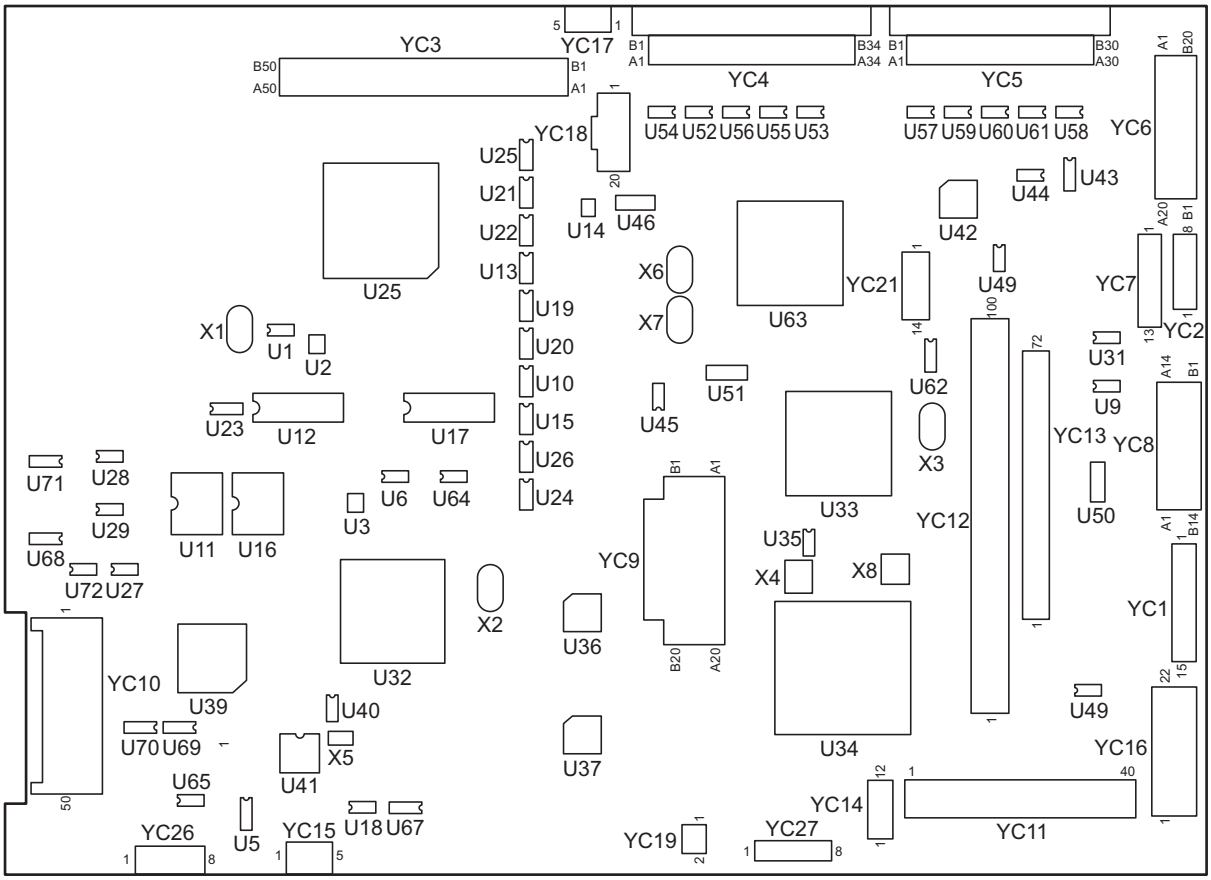


Figure 2-3-6 Main PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	EG_DATA	I	0/5 V DC	LSU data signal
Connected to the engine PWB	2	EG_CLK	I	0/5 V DC (pulse)	LSU clock signal
	3	EG_LOAD	I	0/5 V DC	LSU load signal
	4	LDON	I	0/5 V DC	LDON signal
	5	SGND	-	-	Signal ground
	6	SGND	-	-	Signal ground
	7	LSU_5V	I	5 V DC	5 V DC power input
	8	PVSYNC	I	0/5 V DC	PVSYNC signal
	9	OUTPEN	I	0/5 V DC	OUTPEN signal
	10	EGIRN	I	0/5 V DC	Engine PWB IRN signal
	11	EGSDIR	I	0/5 V DC	Engine PWB SDIR signal
	12	EGSBSY	I	0/5 V DC	Engine PWB SBSY signal
	13	EGSO	I	0/5 V DC (pulse)	Engine PWB serial communication signal
	14	EGSI	O	0/5 V DC (pulse)	Engine PWB serial communication signal
	15	EGSCKN	O	0/5 V DC (pulse)	Engine PWB clock signal
YC2	1	SCSCKN	O	0/5 V DC (pulse)	Scanner clock signal
Connected to the scan-ner PWB	2	SCSI	O	0/5 V DC (pulse)	Scanner serial communication signal
	3	SCSO	I	0/5 V DC (pulse)	Scanner serial communication signal
	4	SCSBSY	I	0/5 V DC	Scanner SBSY signal
	5	SCSDIR	I	0/5 V DC	Scanner SDIR signal
	6	SCIRN	I	0/5 V DC	Scanner IRN signal
	7	SGND	-	-	Signal ground
	8	SCANNER SET	I	0/5 V DC	Scanner set signal
YC4	A1	WINCD_DIN_RP3	I	0/3.3 V DC (pulse)	Image data signal
Connected to the SHD PWB	A2	WINCD_DIN_RN3	I	0/3.3 V DC (pulse)	Image data signal
	A3	WINCD_DIN_RP2	I	0/3.3 V DC (pulse)	Image data signal
	A4	WINCD_DIN_RN2	I	0/3.3 V DC (pulse)	Image data signal
	A5	WINCD_DIN_RP1	I	0/3.3 V DC (pulse)	Image data signal
	A6	WINCD_DIN_RN1	I	0/3.3 V DC (pulse)	Image data signal
	A7	WINCD_DIN_RP0	I	0/3.3 V DC (pulse)	Image data signal
	A8	WINCD_DIN_RN0	I	0/3.3 V DC (pulse)	Image data signal
	A9	WINCD_DIN_GP3	I	0/3.3 V DC (pulse)	Image data signal
	A10	WINCD_DIN_GN3	I	0/3.3 V DC (pulse)	Image data signal
	A11	WINCD_DIN_GP2	I	0/3.3 V DC (pulse)	Image data signal
	A12	WINCD_DIN_GN2	I	0/3.3 V DC (pulse)	Image data signal
	A13	WINCD_DIN_GP1	I	0/3.3 V DC (pulse)	Image data signal
	A14	WINCD_DIN_GN1	I	0/3.3 V DC (pulse)	Image data signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC4	A15	WINCD_DIN_GP0	I	0/3.3 V DC (pulse)	Image data signal
Connected to the SHD PWB	A16	WINCD_DIN_GN0	I	0/3.3 V DC (pulse)	Image data signal
	A17	SGND	-	-	Signal ground
	A18	SGND	-	-	Signal ground
	A19	SGND	-	-	Signal ground
	A20	SGND	-	-	Signal ground
	A21	SGND	-	-	Signal ground
	A22	SGND	-	-	Signal ground
	A23	SGND	-	-	Signal ground
	A24	SGND	-	-	Signal ground
	A25	N.C	-	-	Not used
	A26	N.C	-	-	Not used
	A27	SGND	-	-	Signal ground
	A28	SGND	-	-	Signal ground
	A29	WINCDVSY	I	0/3.3 V DC	CCD VSYNC signal
	A30	SGND	-	-	Signal ground
	A31	N.C	-	-	Not used
	A32	N.C	-	-	Not used
	A33	N.C	-	-	Not used
	A34	N.C	-	-	Not used
	B1	WINCD_DIN_RP7	I	0/3.3 V DC (pulse)	Image data signal
	B2	WINCD_DIN_RN7	I	0/3.3 V DC (pulse)	Image data signal
	B3	WINCD_DIN_RP6	I	0/3.3 V DC (pulse)	Image data signal
	B4	WINCD_DIN_RN6	I	0/3.3 V DC (pulse)	Image data signal
	B5	WINCD_DIN_RP5	I	0/3.3 V DC (pulse)	Image data signal
	B6	WINCD_DIN_RN5	I	0/3.3 V DC (pulse)	Image data signal
	B7	WINCD_DIN_RP4	I	0/3.3 V DC (pulse)	Image data signal
	B8	WINCD_DIN_RN4	I	0/3.3 V DC (pulse)	Image data signal
	B9	WINCD_DIN_GP7	I	0/3.3 V DC (pulse)	Image data signal
	B10	WINCD_DIN_GN7	I	0/3.3 V DC (pulse)	Image data signal
	B11	WINCD_DIN_GP6	I	0/3.3 V DC (pulse)	Image data signal
	B12	WINCD_DIN_GN6	I	0/3.3 V DC (pulse)	Image data signal
	B13	WINCD_DIN_GP5	I	0/3.3 V DC (pulse)	Image data signal
	B14	WINCD_DIN_GN5	I	0/3.3 V DC (pulse)	Image data signal
	B15	WINCD_DIN_GP4	I	0/3.3 V DC (pulse)	Image data signal
	B16	WINCD_DIN_GN4	I	0/3.3 V DC (pulse)	Image data signal
	B17	SGND	-	-	Signal ground
	B18	SGND	-	-	Signal ground
	B19	SGND	-	-	Signal ground
	B20	SGND	-	-	Signal ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC4	B21	SGND	-	-	Signal ground
Connected to the SHD PWB	B22	SGND	-	-	Signal ground
	B23	SGND	-	-	Signal ground
	B24	SGND	-	-	Signal ground
	B25	WINCDCK_P	I	0/3.3 V DC (pulse)	CCD clock signal
	B26	WINCDCK_N	I	0/3.3 V DC (pulse)	CCD clock signal
	B27	WINCDHSY_P	I	0/3.3 V DC	CCD HSYNC signal
	B28	WINCDHSY_N	I	0/3.3 V DC	CCD HSYNC signal
	B29	WINCDMRE_P	I	0/3.3 V DC	CCD MRE signal
	B30	WINCDMRE_N	I	0/3.3 V DC	CCD MRE signal
	B31	N.C	-	-	Not used
	B32	N.C	-	-	Not used
	B33	N.C	-	-	Not used
	B34	N.C	-	-	Not used
YC5	A1	WINCS_DIN_RP7	I	0/3.3 V DC (pulse)	Image data signal
Connected to the DP main PWB	A2	WINCS_DIN_RN7	I	0/3.3 V DC (pulse)	Image data signal
	A3	WINCS_DIN_RP6	I	0/3.3 V DC (pulse)	Image data signal
	A4	WINCS_DIN_RN6	I	0/3.3 V DC (pulse)	Image data signal
	A5	WINCS_DIN_RP5	I	0/3.3 V DC (pulse)	Image data signal
	A6	WINCS_DIN_RN5	I	0/3.3 V DC (pulse)	Image data signal
	A7	WINCS_DIN_RP4	I	0/3.3 V DC (pulse)	Image data signal
	A8	WINCS_DIN_RN4	I	0/3.3 V DC (pulse)	Image data signal
	A9	WINCS_DIN_GP7	I	0/3.3 V DC (pulse)	Image data signal
	A10	WINCS_DIN_GN7	I	0/3.3 V DC (pulse)	Image data signal
	A11	WINCS_DIN_GP6	I	0/3.3 V DC (pulse)	Image data signal
	A12	WINCS_DIN_GN6	I	0/3.3 V DC (pulse)	Image data signal
	A13	WINCS_DIN_GP5	I	0/3.3 V DC (pulse)	Image data signal
	A14	WINCS_DIN_GN5	I	0/3.3 V DC (pulse)	Image data signal
	A15	WINCS_DIN_GP4	I	0/3.3 V DC (pulse)	Image data signal
	A16	WINCS_DIN_GN4	I	0/3.3 V DC (pulse)	Image data signal
	A17	SGND	-	-	Signal ground
	A18	SGND	-	-	Signal ground
	A19	SGND	-	-	Signal ground
	A20	SGND	-	-	Signal ground
	A21	SGND	-	-	Signal ground
	A22	SGND	-	-	Signal ground
	A23	SGND	-	-	Signal ground
	A24	SGND	-	-	Signal ground
	A25	WINCSCK_P	I	0/3.3 V DC (pulse)	CIS clock signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	A26	WINCSCK_N	I	0/3.3 V DC (pulse)	CIS clock signal
Connected to the DP main PWB	A27	WINCSHSY_P	I	0/3.3 V DC	CIS HSYNC signal
	A28	WINCSHSY_N	I	0/3.3 V DC	CIS HSYNC signal
	A29	WINCSMRE_P	I	0/3.3 V DC	CIS MRE signal
	A30	WINCSMRE_N	I	0/3.3 V DC	CIS MRE signal
	B1	WINCS_DIN_RP3	I	0/3.3 V DC (pulse)	Image data signal
	B2	WINCS_DIN_RN3	I	0/3.3 V DC (pulse)	Image data signal
	B3	WINCS_DIN_RP2	I	0/3.3 V DC (pulse)	Image data signal
	B4	WINCS_DIN_RN2	I	0/3.3 V DC (pulse)	Image data signal
	B5	WINCS_DIN_RP1	I	0/3.3 V DC (pulse)	Image data signal
	B6	WINCS_DIN_RN1	I	0/3.3 V DC (pulse)	Image data signal
	B7	WINCS_DIN_RP0	I	0/3.3 V DC (pulse)	Image data signal
	B8	WINCS_DIN_RN0	I	0/3.3 V DC (pulse)	Image data signal
	B9	WINCS_DIN_GP3	I	0/3.3 V DC (pulse)	Image data signal
	B10	WINCS_DIN_GN3	I	0/3.3 V DC (pulse)	Image data signal
	B11	WINCS_DIN_GP2	I	0/3.3 V DC (pulse)	Image data signal
	B12	WINCS_DIN_GN2	I	0/3.3 V DC (pulse)	Image data signal
	B13	WINCS_DIN_GP1	I	0/3.3 V DC (pulse)	Image data signal
	B14	WINCS_DIN_GN1	I	0/3.3 V DC (pulse)	Image data signal
	B15	WINCS_DIN_GP0	I	0/3.3 V DC (pulse)	Image data signal
	B16	WINCS_DIN_GN0	I	0/3.3 V DC (pulse)	Image data signal
	B17	SGND	-	-	Signal ground
	B18	SGND	-	-	Signal ground
	B19	SGND	-	-	Signal ground
	B20	SGND	-	-	Signal ground
	B21	SGND	-	-	Signal ground
	B22	SGND	-	-	Signal ground
	B23	SGND	-	-	Signal ground
	B24	SGND	-	-	Signal ground
	B25	N.C	-	-	Not used
	B26	N.C	-	-	Not used
	B27	SGND	-	-	Signal ground
	B28	SGND	-	-	Signal ground
	B29	WINCSVSY	I	0/3.3 V DC	CIS VSYNC signal
	B30	SGND	-	-	Signal ground
YC6	A1	BUZZER	O	0/5 V DC	BUZZER signal output
Connected to the operation PWB	A2	X1	I	Analog	Touch panel detection voltage X1
	A3	Y1	I	Analog	Touch panel detection voltage Y1
	A4	X2	O	Analog	Touch panel detection voltage X2
	A5	Y2	O	Analog	Touch panel detection voltage Y2
	A6	LCD FRAME	O	0/5 V DC	LCD FRAME signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC6	A7	LCD LOAD	O	0/5 V DC	LCD LOAD signal
Connected to the operation PWB	A8	LCD CP	O	0/5 V DC (pulse)	LCD CP signal
	A9	LCD VSS1	-	-	Signal ground
	A10	LCD VDD	O	5 V DC	5 V DC power output
	A11	LCD VSS2	-	-	Signal ground
	A12	LCD DISP OFF	O	0/5 V DC	LCD display: On/off
	A13	LCD D0	O	0/5 V DC (pulse)	LCD data signal
	A14	LCD D1	O	0/5 V DC (pulse)	LCD data signal
	A15	LCD D2	O	0/5 V DC (pulse)	LCD data signal
	A16	LCD D3	O	0/5 V DC (pulse)	LCD data signal
	A17	VEE_OFF	O	0/5 V DC	LCD power supply control signal
	A18	N.C	-	-	Not used
	A19	TP_REM	-	-	Not used
	A20	N.C	-	-	Not used
	B1	PH_KEY	I	0/5 V DC	Energy saver key: On/off
	B2	PH_LED	O	0/5 V DC	Energy saver key LED display: On/off
	B3	SGND	-	-	Signal ground
	B4	PGND	-	-	Power ground
	B5	24V	O	24 V DC	24 V DC power output
	B6	LAMP OFF	O	0/5 V DC	LCD back light signal
	B7	SGND	-	-	Signal ground
	B8	5V	O	5 V DC	5 V DC power output
	B9	DIG LED_8	O	0/5 V DC (pulse)	DIG LED_8 signal
	B10	DIG LED_7	O	0/5 V DC (pulse)	DIG LED_7 signal
	B11	SCAN_8	O	0/5 V DC (pulse)	SCAN_8 signal
	B12	SCAN_7	O	0/5 V DC (pulse)	SCAN_7 signal
	B13	SCAN_6	O	0/5 V DC (pulse)	SCAN_6 signal
	B14	SCAN_5	O	0/5 V DC (pulse)	SCAN_5 signal
	B15	DIG KEY_9	I	0/5 V DC (pulse)	DIG KEY_9 signal
	B16	DIG KEY_8	I	0/5 V DC (pulse)	DIG KEY_8 signal
	B17	DIG KEY_7	I	0/5 V DC (pulse)	DIG KEY_7 signal
	B18	DIG KEY_6	I	0/5 V DC (pulse)	DIG KEY_6 signal
	B19	DIG KEY_5	I	0/5 V DC (pulse)	DIG KEY_5 signal
	B20	DIG KEY_4	I	0/5 V DC (pulse)	DIG KEY_4 signal
YC7	1	DIG LED_6	O	0/5 V DC (pulse)	DIG LED_6 signal
Connected to the operation PWB	2	DIG LED_5	O	0/5 V DC (pulse)	DIG LED_5 signal
	3	DIG LED_4	O	0/5 V DC (pulse)	DIG LED_4 signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	4	DIG LED_3	O	0/5 V DC (pulse)	DIG LED_3 signal
Connected to the operation PWB	5	DIG LED_2	O	0/5 V DC (pulse)	DIG LED_2 signal
	6	DIG LED_1	O	0/5 V DC (pulse)	DIG LED_1 signal
	7	SCAN_4	O	0/5 V DC (pulse)	SCAN_4 signal
	8	SCAN_3	O	0/5 V DC (pulse)	SCAN_3 signal
	9	SCAN_2	O	0/5 V DC (pulse)	SCAN_2 signal
	10	SCAN_1	O	0/5 V DC (pulse)	SCAN_1 signal
	11	DIG KEY_3	I	0/5 V DC (pulse)	DIG KEY_3 signal
	12	DIG KEY_2	I	0/5 V DC (pulse)	DIG KEY_2 signal
	13	DIG KEY_1	I	0/5 V DC (pulse)	DIG KEY_1 signal
YC8	A1	R5V	O	5 V DC	5 V DC power output
Connected to the APC PWB and PD PWB	A2	SGND	-	-	Signal ground
	A3	FLDEN	O	0/5 V DC	Laser on control signal
	A4	SGND	-	-	Signal ground
	A5	ADJUSTA	O	0/5 V DC	Laser auto power control signal
	A6	SGND	-	-	Signal ground
	A7	ADJUSTB	O	0/5 V DC	Laser auto power control signal
	A8	SGND	-	-	Signal ground
	A9	ADJUSTC	-	0/5 V DC	Laser auto power control signal
	A10	SGND	-	-	Signal ground
	A11	CLK	-	0/5 V DC (pulse)	D/A converter clock signal
	A12	SGND	-	-	Signal ground
	A13	DATA	O	0/5 V DC (pulse)	D/A converter data signal
	A14	SGND	-	-	Signal ground
	B1	SGND	-	-	Signal ground
	B2	BD_b	-	-	Not used
	B3	BD-	I	0/5 V DC	Laser entrance signal
	B4	BD+	I	0/5 V DC	Laser entrance signal
	B5	SGND	-	-	Signal ground
	B6	R5V	O	5 V DC	5 V DC power output
	B7	VD3N	O	Analog	Laser diode control signal
	B8	VD3P	O	Analog	Laser diode control signal
	B9	VD2N	O	Analog	Laser diode control signal
	B10	VD2P	O	Analog	Laser diode control signal
	B11	VD1N	O	Analog	Laser diode control signal
	B12	VD1P	O	Analog	Laser diode control signal
	B13	SGND	-	-	Signal ground
	B14	LOAD	O	0/5 V DC	D/A converter load signal
YC16	1	5V	I	5 V DC	5 V DC power input
Connected to the DC power source PWB	2	5V	I	5 V DC	5 V DC power input
	3	5V	I	5 V DC	5 V DC power input
	4	5V	I	5 V DC	5 V DC power input
	5	5V	I	5 V DC	5 V DC power input
	6	5V	I	5 V DC	5 V DC power input
	7	SGND	-	-	Signal ground
	8	SGND	-	-	Signal ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC16	9	SGND	-	-	Signal ground
Connected to the DC power source PWB	10	SGND	-	-	Signal ground
	11	SGND	-	-	Signal ground
	12	SGND	-	-	Signal ground
	13	SGND	-	-	Signal ground
	14	SGND	-	-	Signal ground
	15	5VPD	I	5 V DC	5 V DC power input
	16	5VPD	I	5 V DC	5 V DC power input
	17	SLEEP	O	0/5 V DC	Sleep control signal
	18	N.C	-	-	Not used
	19	PGND	-	-	Power ground
	20	N.C	-	-	Not used
	21	24V	O	24 V DC	24 V DC power input
	22	SLEEP	-	-	Not used
YC19	1	MAIN FAN REM	O	0/5 V DC	Shield box fan motor: On/off
Connected to the shield box fan motor	2	5V	O	5 V DC	5 V DC power output

2-3-4 Engine PWB

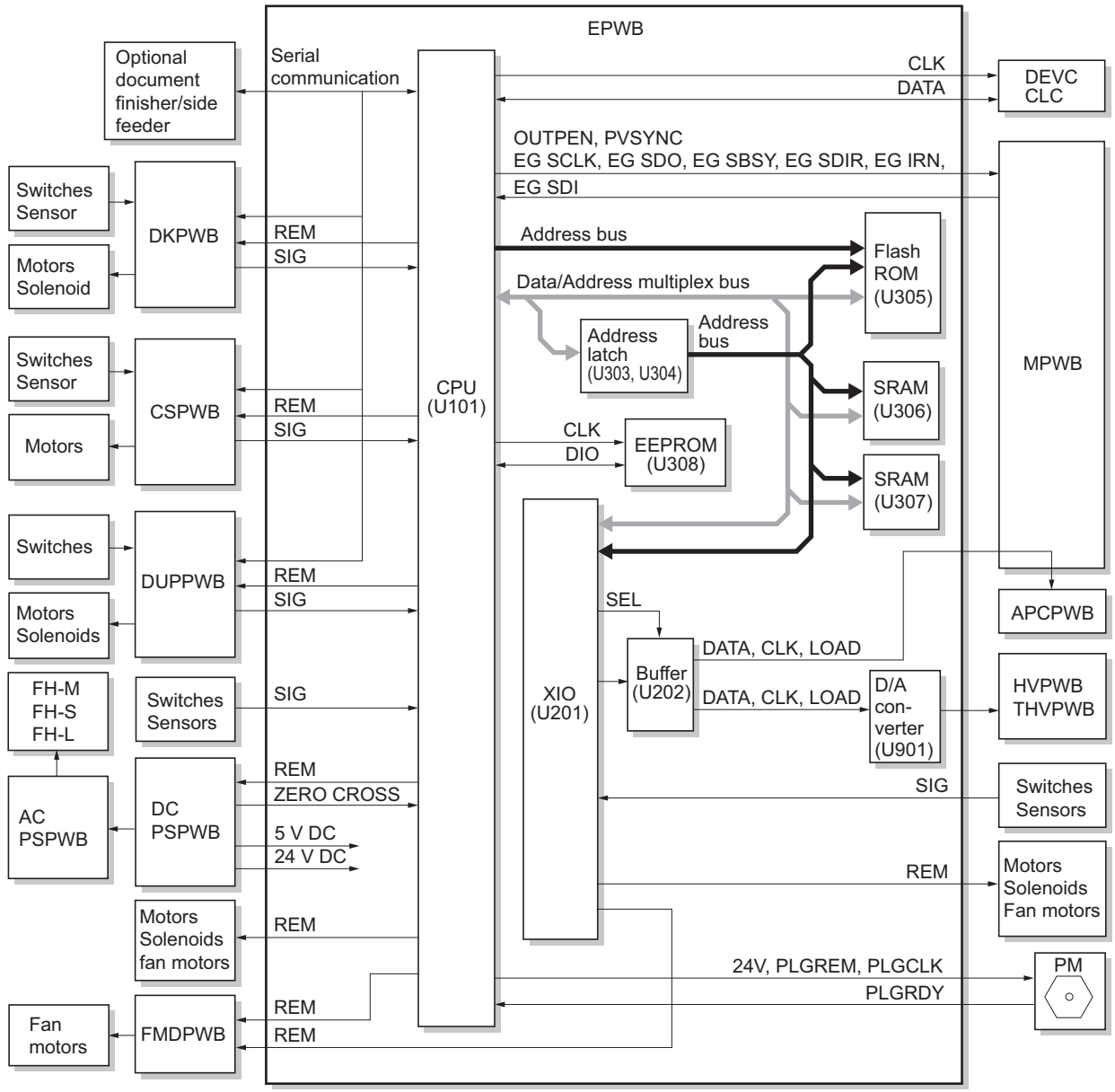


Figure 2-3-7 Engine PWB block diagram

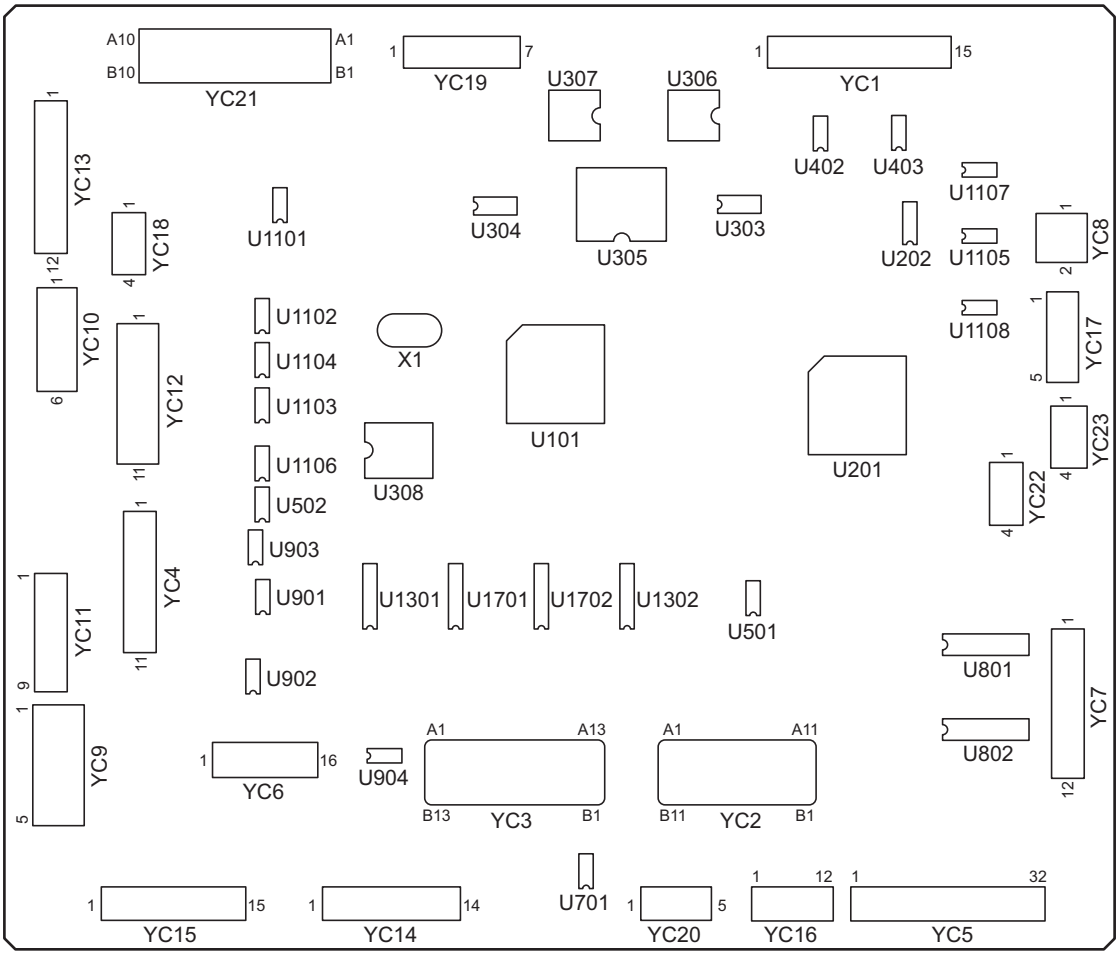


Figure 2-3-8 Engine PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	EG SCLK	I	0/5 V DC (pulse)	Engine PWB clock signal
Connected to the main PWB	2	EG SDI	I	0/5 V DC (pulse)	Engine PWB serial communication signal
	3	EG SDO	O	0/5 V DC (pulse)	Engine PWB serial communication signal
	4	EG SBSY	O	0/5 V DC	Engine PWB SBSY signal
	5	EG SDIR	O	0/5 V DC	Engine PWB SDIR signal
	6	EG IRN	O	0/5 V DC	Engine PWB IRN signal
	7	OUTPEN	O	0/5 V DC	OUTPEN signal
	8	PVSYNC	O	0/5 V DC	PVSYNC signal
	9	R5V	O	5 V DC	5 V DC power output
	10	SGND	-	-	Signal ground
	11	SGND	-	-	Signal ground
	12	LDON	O	0/5 V DC	LDON signal
	13	LSU LOAD	O	0/5 V DC	LSU load signal
	14	LSU CLK	O	0/5 V DC (pulse)	LSU clock signal
	15	LSU DATA	O	0/5 V DC (pulse)	LSU data signal
YC2	A1	SGND	-	-	Signal ground
Connected to the duplex PWB	A2	DUP SDI	I	0/5 V DC (pulse)	Duplex PWB serial communication signal
	A3	DUP SDO	O	0/5 V DC (pulse)	Duplex PWB serial communication signal
	A4	DUP SCLK(O)	O	0/5 V DC (pulse)	Duplex PWB clock signal
	A5	DUP RDY(I)	I	0/5 V DC	Duplex PWB ready signal
	A6	DUP SEL(O)	O	0/5 V DC	Duplex PWB SEL signal
	A7	DUP PAUSE	O	0/5 V DC	Duplex PWB PAUSE signal
	A8	N.C	-	-	Not used
	A9	REG SW	I	0/5 V DC	Registration switch: On/off
	A10	FEED A SW	I	0/5 V DC	Feed switch 1: On/off
	A11	EJECT SW	I	0/5 V DC	Exit switch: On/off
	B1	SGND	-	-	Signal ground
	B2	REG MOT CLK	O	0/5 V DC (pulse)	Registration motor clock signal
	B3	REG MOT REM	O	0/5 V DC	Registration motor: On/off
	B4	REG MOT HLD	O	0/5 V DC	Registration motor hold signal
	B5	REG MOT MODE	O	0/5 V DC	Registration motor mode signal
	B6	FEED MOT CLK	O	0/5 V DC (pulse)	Feed motor clock signal
	B7	FEED MOT REM	O	0/5 V DC	Feed motor: On/off
	B8	FEED MOT HLD	O	0/5 V DC	Feed motor hold signal
	B9	FEED MOT MODE	O	0/5 V DC	Feed motor mode signal
	B10	FUSER MOT ALM	I	0/5 V DC	Fuser motor alarm signal
	B11	FUSER MOT REM	O	0/24 V DC	Fuser motor: On/off
YC3	A1	SGND	-	-	Signal ground
Connected to the deck PWB	A2	DK SDI	I	0/5 V DC (pulse)	Deck PWB serial communication signal
	A3	DK SDO	O	0/5 V DC (pulse)	Deck PWB serial communication signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	A4	DK SCLK(O)	O	0/5 V DC (pulse)	Deck PWB clock signal
Connected to the deck PWB	A5	DK RDY(I)	I	0/5 V DC	Deck PWB ready signal
	A6	DK SEL(O)	O	0/5 V DC	Deck PWB SEL signal
	A7	FEED B SW	I	0/5 V DC	Feed switch 2: On/off
	A8	MP SOL PUL	O	0/24 V DC	MP solenoid (activate): On/off
	A9	MP SOL RTN	O	0/24 V DC	MP solenoid (return): On/off
	A10	MP SET SW SIG	I	0/5 V DC	MP paper empty switch: On/off
	A11	MP PSD SW SIG	I	0/5 V DC	MP paper length size switch: On/off
	A12	MP TRY SW SIG	I	0/5 V DC	MP tray switch: On/off
	A13	CONT SENS	I	Analog	Toner container sensor detection signal input
	B1	SGND	-	-	Signal ground
	B2	FAN STOP	O	0/5 V DC	Fan motors: On/off
	B3	MAIN MOT ALM	I	0/5 V DC	Drive motor alarm signal
	B4	MAIN MOT REM	O	0/24 V DC	Drive motor: On/off
	B5	MP MOT CWB	O	0/5 V DC	MP feed motor CWB signal
	B6	MP MOT MODE	O	0/5 V DC	MP feed motor mode signal
	B7	MP MOT HLD	O	0/5 V DC	MP feed motor hold signal
	B8	MP MOT REM	O	0/5 V DC	MP feed motor: On/off
	B9	MP MOT CLK	O	0/5 V DC (pulse)	MP feed motor clock signal
	B10	MP DIG2	I	0/5 V DC	MP paper width size switch: On/off
	B11	MP DIG1	I	0/5 V DC	MP paper width size switch: On/off
	B12	MP DIG0	I	0/5 V DC	MP paper width size switch: On/off
	B13	CONT SET SW	I	0/5 V DC	Toner container detection switch: On/off
YC4	1	SGND	-	-	Signal ground
Connected to the cas-sette PWB	2	SGND	-	-	Signal ground
	3	TFR MOT ALM	I	0/5 V DC	Transfer motor alarm signal
	4	TFR MOT REM	O	0/24 V DC	Transfer motor: On/off
	5	CS PAUSE	O	0/5 V DC	Cassette PWB PAUSE signal
	6	CS SDI	I	0/5 V DC (pulse)	Cassette PWB serial communication signal
	7	CS SDO	O	0/5 V DC (pulse)	Cassette PWB serial communication signal
	8	CS SCLK(O)	O	0/5 V DC (pulse)	Cassette PWB clock signal
	9	CS RDY(I)	I	0/5 V DC	Cassette PWB ready signal
	10	CS SEL(O)	O	0/5 V DC	Cassette PWB SEL signal
	11	DISPOSL SIG	I	0/5 V DC	Waste toner sensor: On/off
YC5	1	IMAGE FAN REM	O	0/24 V DC	Image formation fan motor: On/off
Connected to the image formation unit, fan motors and potential sensor	2	DLP FAN R REM	O	0/24 V DC	Developing duct fan motor: On/off
	3	PGND	-	-	Power ground
	4	PGND	-	-	Power ground
	5	CL LAMP REM	O	0/24 V DC	Cleaning lamp: On/off
	6	CL MOT MC FWD	O	24/0 V DC	Cleaning motor: forwarding/reversing (off)
	7	R24V	O	24 V DC	24 V DC power output
	8	CL MOT MC REV	O	24/0 V DC	Cleaning motor: reversing/forwarding (off)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	9	DLP EEPROM CLK	O	0/5 V DC (pulse)	Developing counter clock signal
Connected to the image formation unit, fan motors and potential sensor	10	CL EEPROM CLK	O	0/5 V DC (pulse)	Cleaning counter clock signal
	11	DLP EEPROM SET	I	0/5 V DC	Developing counter set signal
	12	CL EEPROM SET	I	0/5 V DC	Cleaning counter set signal
	13	DLP EEPROM DATA	I/O	0/5 V DC (pulse)	Developing counter data signal
	14	CL EEPROM DATA	I/O	0/5 V DC (pulse)	Cleaning counter data signal
	15	5V	O	5 V DC	5 V DC power output
	16	5V	O	5 V DC	5 V DC power output
	17	SGND	-	-	Signal ground
	18	SGND	-	-	Signal ground
	19	5V	O	5 V DC	5 V DC power output
	20	CL MOT PTC FWD	O	24/0 V DC	PTC cleaning motor forwarding/reversing (off)
	21	DLP SENS SIG	I	Analog	Developing sensor detection signal
	22	CL MOT PTC REV	O	24/0 V DC	PTC cleaning motor reversing/forwarding (off)
	23	SGND	-	-	Signal ground
	24	POTENTIAL SENS	I	Analog	Potential sensor detection signal
	25	R24V	O	24 V DC	24 V DC power output
	26	PGND	-	-	Power ground
	27	SGND	-	-	Signal ground
	28	PGND	-	-	Power ground
	29	PGND	-	-	Power ground
	30	PGND	-	-	Power ground
	31	COOL FAN3 REM	O	0/24 V DC	Cooling fan motor 3: On/off
	32	LSU FAN REM	O	0/12/24 V DC	LSU fan motor and scanner fan motor: full speed/ half speed/off
YC6	1	N.C	-	-	Not used
Connected to the conveying unit	2	R24V	O	24 V DC	24 V DC power output
	3	N.C	-	-	Not used
	4	FEED SHIFT FAN	O	0/24 V DC	Feedshift fan motor: On/off
	5	TRF -CNT	O	Analog	Transfer bias minus output control voltage
	6	R24V	O	24 V DC	24 V DC power output
	7	TRF +CNT	O	Analog	Transfer bias plus output control voltage
	8	N.C	-	-	Not used
	9	TRF INV	O	0/24 V DC	Transfer bias plus/minus switching signal
	10	N.C	-	-	Not used
	11	TRF REM	O	0/24 V DC	Transfer high voltage: On/off
	12	R24V	O	24 V DC	24 V DC power output
	13	PGND	-	-	Power ground
	14	FS SOL PUL	O	0/24 V DC	Feedshift solenoid (activate): On/off
	15	R24V	O	24 V DC	24 V DC power output
	16	FS SOL RTN	O	0/24 V DC	Feedshift solenoid (return): On/off
YC7	1	PTC ALM	I	0/5 V DC	Pre transfer charger alarm signal
Connected to the high voltage PWB	2	PTC REM	O	0/24 V DC	Pre transfer charger: On/off
	3	DLP PLS	O	0/24 V DC (pulse)	Developing bias AC pulse signal
	4	DLP CONT	O	Analog	Developing bias DC control voltage
	5	DLP AC REM	O	0/24 V DC	Developing bias AC: On/off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	6	DLP DC REM	O	0/24 V DC	Developing bias DC: On/off
Connected to the high voltage PWB	7	G CONT	O	Analog	Grid control voltage
	8	MC ALM	I	0/5 V DC	Main charger alarm signal
	9	MC REM	O	0/24 V DC	Main charger: On/off
	10	PGND	-	-	Power ground
	11	R24V	O	24 V DC	24 V DC power output
	12	DLP AC CNT	O	Analog	Developing bias AC control voltage
YC8	1	R24V	O	24 V DC	24 V DC power output
Connected to the drum heater PWB	2	DRUM HEAT REM	I	0/24 V DC	Drum heater: On/off
YC9	1	24V	I	24 V DC	24 V DC power input
Connected to the DC power source PWB	2	PGND	-	-	Power ground
	3	R24V	I	24 V DC	24 V DC power input
	4	S5V	I	5 V DC	5 V DC power input
	5	SGND	-	-	Signal ground
YC10	1	FRONT COV SOR	O	24 V DC	24 V DC power output
Connected to the front cover switch and right cover switch	2	PGND	-	-	Power ground
	3	FRONT COV SIG	I	24/0 V DC	Front cover switch: On/off
	4	RIGHT COV SOR	O	24 V DC	24 V DC power output
	5	PGND	-	-	Power ground
	6	RIGHT COV SIG	I	24/0 V DC	Right cover switch: On/off
YC11	1	RELAY SOURCE	O	24 V DC	24 V DC power output
Connected to the DC power source PWB	2	RELAY REM	O	0/24 V DC	Relay control signal
	3	ZEROCROSS REM	I	0/5 V DC (pulse)	Zero cross signal
	4	CS HEATER REM	O	0/5 V DC	Drawer heater 1, 2 and 3: On/off
	5	M HEATER REM	O	0/5 V DC	Fuser heater M: On/off
	6	L HEATER REM	O	0/5 V DC	Fuser heater L: On/off
	7	S HEATER REM	O	0/5 V DC	Fuser heater S: On/off
	8	N.C	-	-	Not used
	9	PFAN REM	O	0/5 V DC	PWB fan motor: On/off
YC12	1	R24V	I	24 V DC	24 V DC power output
Connected to the fuser unit, fuser web sole-noid and switchback exit switch	2	FIX WEBSOL REM	O	0/24 V DC	Fuser web solenoid: On/off
	3	FIX TH M SIG	I	Analog	Fuser thermistor M detection signal
	4	SGND	-	-	Signal ground
	5	FIX TH S SIG	I	Analog	Fuser thermistor S detection signal
	6	SGND	-	-	Signal ground
	7	CONVEY U SET	I	0/5 V DC	Conveying unit set signal
	8	SGND	-	-	Signal ground
	9	SGND	-	-	Signal ground
	10	SB EJ SW SIG	I	0/5 V DC	Switchback exit switch: On/off
	11	5V	O	5 V DC	5 V DC power output

Connector	Pin No.	Signal	I/O	Voltage	Description
YC13	1	DLP FAN F REM	O	24 to 20.92/ 20.92 to 0.5/ 0.5 to 0 V DC	Developing fan motor 1/2: full speed/half speed/off
Connected to the fan motors drive PWB, cooling fan motor 4, duplex fan motor and humidity sensor	2	PGND	-	-	Power ground
	3	COOL FAN1 REM	O	24 to 20.92/ 20.92 to 0.5/ 0.5 to 0 V DC	Cooling fan motor 1/2 and PWB fan motor 1/2: full speed/half speed/off
	4	PGND	-	-	Power ground
	5	COOL FAN4 REM	O	0/24 V DC	Cooling fan motor 4: On/off
	6	PGND	-	-	Power ground
	7	DUP FAN REM	O	0/24 V DC	Duplex fan motor: On/off
	8	PGND	-	-	Power ground
	9	5V	O	5 V DC	5 V DC power output
	10	HUMID SENS SIG	I	Analog	Humidity sensor humidity detection signal
	11	SGND	-	-	Signal ground
	12	TEMP SENS SIG	I	Analog	Humidity sensor temperature detection signal
YC14	1	DF SET	I	0/5 V DC	Document finisher set signal
Connected to the optional document finisher	2	OP SDO(DF)	O	0/5 V DC (pulse)	Document finisher serial communication signal
	3	OP SDI(DF)	I	0/5 V DC (pulse)	Document finisher serial communication signal
	4	OP SCLK(DF)	O	0/5 V DC (pulse)	Document finisher clock signal
	5	DF SEL	O	0/5 V DC	Document finisher SEL signal
	6	SI SEL	-	-	Not used
	7	DF RDY	I	0/5 V DC	Document finisher ready signal
	8	SI RDY	-	-	Not used
	9	SG(DF)	-	-	Signal ground
	10	SG(DF)	-	-	Signal ground
	11	SG(DF)	-	-	Signal ground
	12	SG(DF)	-	-	Signal ground
	13	SG(DF)	-	-	Signal ground
	14	SG(DF)	-	-	Signal ground
YC15	1	SG(SF)	-	-	Signal ground
Connected to the optional side feeder	2	SG(SF)	-	-	Signal ground
	3	SG(SF)	-	-	Signal ground
	4	SG(SF)	-	-	Signal ground
	5	SG(SF)	-	-	Signal ground
	6	SG(SF)	-	-	Signal ground
	7	SG(SF)	-	-	Signal ground
	8	SG(SF)	-	-	Signal ground
	9	STOP(SF)	O	0/5 V DC	Side feeder stop signal
	10	OP SDO(SF)	O	0/5 V DC (pulse)	Side feeder serial communication signal
	11	OP SDI(SF)	I	0/5 V DC (pulse)	Side feeder serial communication signal
	12	SF RDY	I	0/5 V DC	Side feeder ready signal
	13	SF SEL	O	0/5 V DC	Side feeder SEL signal
	14	OP SCLK(SF)	O	0/5 V DC (pulse)	Side feeder clock signal
	15	N.C	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
YC17	1	R24V	O	24 V DC	24 V DC power output
Connected to the polygon motor	2	PGND	-	-	Power ground
	3	PLG REM	O	0/24 V DC	Polygon motor: On/off
	4	PLG READY	I	0/5 V DC	Polygon motor ready signal
	5	PLG CLK	O	0/5 V DC (pulse)	Polygon motor clock signal
YC18	1	24V	O	24 V DC	24 V DC power output
Connected to the optional key counter	2	K.CARD REM	O	0/24 V DC	Key counter count signal
	3	SET SIG	I	0/5 V DC	Key counter set signal
	4	GND	-	-	Signal ground
YC22	1	24V	O	24 V DC	24 V DC power output
Connected to the total counter	2	REM	O	0/24 V DC	Total counter count signal
	3	GND	-	-	Signal ground
	4	T COUNT SET	I	0/5 V DC	Total counter set signal
YC23	1	D TEMP SENS	I	Analog	Developing humidity sensor temperature detection signal
Connected to the developing humidity sensor	2	SGND	-	-	Signal ground
	3	D HUMID SENS	I	Analog	Developing humidity sensor humidity detection signal
	4	5V	O	5 V DC	5 V DC power output

2-3-5 Scanner PWB

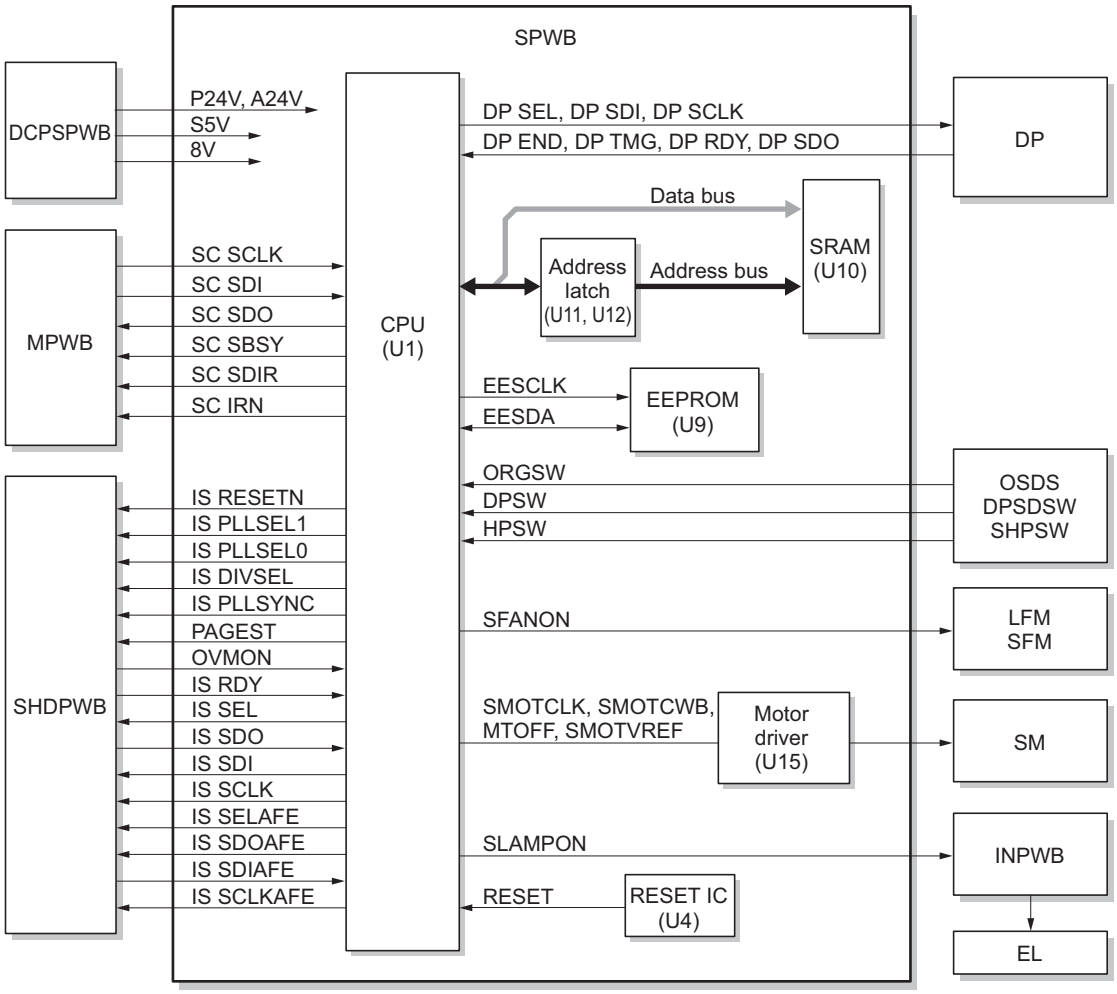


Figure 2-3-9 Scanner PWB block diagram

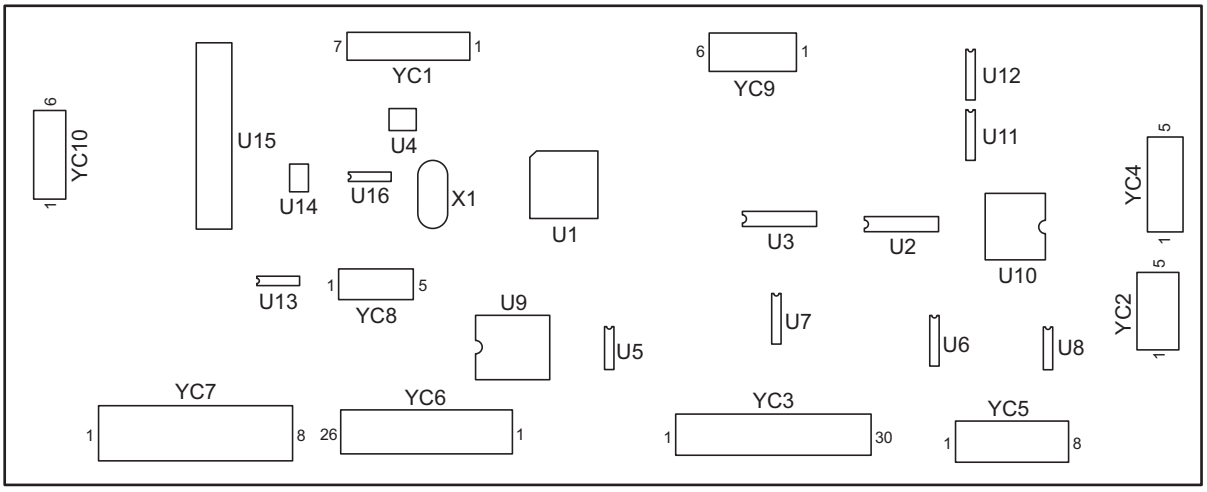


Figure 2-3-10 Scanner PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2	1	SFANON	O	24 V DC	Lamp fan motor/scanner fan motor: On/off
Connected to the lamp fan motor, scanner fan motor and scanner home position switch	2	P24V	O	24 V DC	24 V DC power output
	3	5V	O	5 V DC	5 V DC power output
	4	HPSW	I	0/5 V DC	Scanner home position switch: On/off
	5	SGND	-	-	Signal ground
YC3	1	SGND	-	-	Signal ground
Connected to the SHD PWB	2	CLK5V	O	8 V DC	8 V DC power output
	3	SGND	-	-	Signal ground
	4	CLK5V	O	8 V DC	8 V DC power output
	5	SGND	-	-	Signal ground
	6	CLK5V	O	8 V DC	8 V DC power output
	7	AGND	-	-	Analog ground
	8	A24V	O	24 V DC	24 V DC power output
	9	AGND	-	-	Analog ground
	10	A24V	O	24 V DC	24 V DC power output
	11	SGND	-	-	Signal ground
	12	5V	O	5 V DC	5 V DC power output
	13	SGND	-	-	Signal ground
	14	5V	O	5 V DC	5 V DC power output
	15	IS RESETN	O	0/3.3 V DC	CCD reset signal
	16	IS PLLSEL1	O	0/3.3 V DC	CCD PLLSEL1 signal
	17	IS PLLSEL0	O	0/3.3 V DC	CCD PLLSEL0 signal
	18	IS DIVSEL	O	0/3.3 V DC	CCD DIVSEL signal
	19	IS PLLSYNC	O	0/3.3 V DC	CCD PLLSYNC signal
	20	PAGEST	O	0/3.3 V DC	PAGEST signal
	21	OVMON	I	0/3.3 V DC	OVMON signal
	22	IS RDY	I	0/3.3 V DC	CCD ready signal
	23	IS SEL	O	0/3.3 V DC	CCD SEL signal
	24	IS SDO	I	0/3.3 V DC (pulse)	CCD serial communication signal
	25	IS SDI	O	0/3.3 V DC (pulse)	CCD serial communication signal
	26	IS SCLK	O	0/3.3 V DC (pulse)	CCD clock signal
	27	IS SELAFE	O	0/3.3 V DC	CCD SEL signal
	28	IS SDOAFE	I	0/3.3 V DC (pulse)	CCD serial communication signal
	29	IS SDIAFE	O	0/3.3 V DC (pulse)	CCD serial communication signal
	30	IS SCLKAFE	O	0/3.3 V DC (pulse)	CCD clock signal
YC4	1	PGND	-	-	Power ground
Connected to the inverter PWB	2	PGND	-	-	Power ground
	3	SLAMPON	O	0/24 V DC	Exposure lamp: On/off
	4	P24V	O	24 V DC	24 V DC power output
	5	P24V	O	24 V DC	24 V DC power output
YC5	1	SCANNER SET	O	0/5 V DC	Scanner set signal
Connected to the main PWB	2	SGND	-	-	Signal ground
	3	SC IRN	O	0/5 V DC	Scanner IRN signal
	4	SC SDIR	O	0/5 V DC	Scanner SDIR signal
	5	SC SBSY	O	0/5 V DC	Scanner SBSY signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	6	SC SDO	O	0/5 V DC (pulse)	Scanner serial communication signal
Connected to the main PWB	7	SC SDI	I	0/5 V DC (pulse)	Scanner serial communication signal
	8	SC SCLK	I	0/5 V DC (pulse)	Scanner clock signal
YC6	1	DP END	I	0/5 V DC	DP END signal
Connected to the DP main PWB	2	N.C	-	-	Not used
	3	DP TMG	I	0/5 V DC	DP timing signal
	4	DP RDY	I	0/5 V DC	DP ready signal
	5	DP SEL	O	0/5 V DC	DP SEL signal
	6	DP SDI	O	0/5 V DC (pulse)	DP serial communication signal
	7	DP SDO	I	0/5 V DC (pulse)	DP serial communication signal
	8	DP SCLK	O	0/5 V DC (pulse)	DP clock signal
	9	AGND	-	-	Analog ground
	10	AGND	-	-	Analog ground
	11	SGND	-	-	Signal ground
	12	SGND	-	-	Signal ground
	13	5V	O	5 V DC	5 V DC power output
	14	5V	O	5 V DC	5 V DC power output
	15	PGND	-	-	Power ground
	16	PGND	-	-	Power ground
	17	PGND	-	-	Power ground
	18	A24V	O	24 V DC	24 V DC power output
	19	A24V	O	24 V DC	24 V DC power output
	20	P24V	O	24 V DC	24 V DC power output
	21	P24V	O	24 V DC	24 V DC power output
	22	P24V	O	24 V DC	24 V DC power output
	23	CLK5V	O	8 V DC	8 V DC power output
	24	CLK5V	O	8 V DC	8 V DC power output
	25	SGND	-	-	Signal ground
	26	SGND	-	-	Signal ground
YC7	1	P24V	I	24 V DC	24 V DC power input
Connected to the DC power source PWB	2	A24V	I	24 V DC	24 V DC power input
	3	PGND	-	-	Power ground
	4	AGND	-	-	Analog ground
	5	5V	I	5 V DC	5 V DC power input
	6	SGND	-	-	Signal ground
	7	SGND	-	-	Signal ground
	8	CLK5V	I	8 V DC	8V DC power input
YC9	1	5V	O	5 V DC	5 V DC power output
Connected to the original size detection switch and DP set detection switch	2	DPSW	I	0/5 V DC	DP set detection switch: On/off
	3	SGND	-	-	Signal ground
	4	5V	O	5 V DC	5 V DC power output
	5	ORGSW1	I	0/5 V DC	Original size detection sensor: On/off
	6	SGND	-	-	Signal ground
YC10	1	SMOT AN	O	0/24 V DC (pulse)	Scanner motor drive signal
Connected to the scanner motor	2	SMOT COM	O	24 V DC	24 V DC power output
	3	SMOT A	O	0/24 V DC (pulse)	Scanner motor drive signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10	4	SMOT B	O	0/24 V DC (pulse)	Scanner motor drive signal
Connected to the scanner motor	5	SMOT COM	O	24 V DC	24 V DC power output
	6	SMOT BN	O	0/24 V DC (pulse)	Scanner motor drive signal

2-3-6 CCD PWB

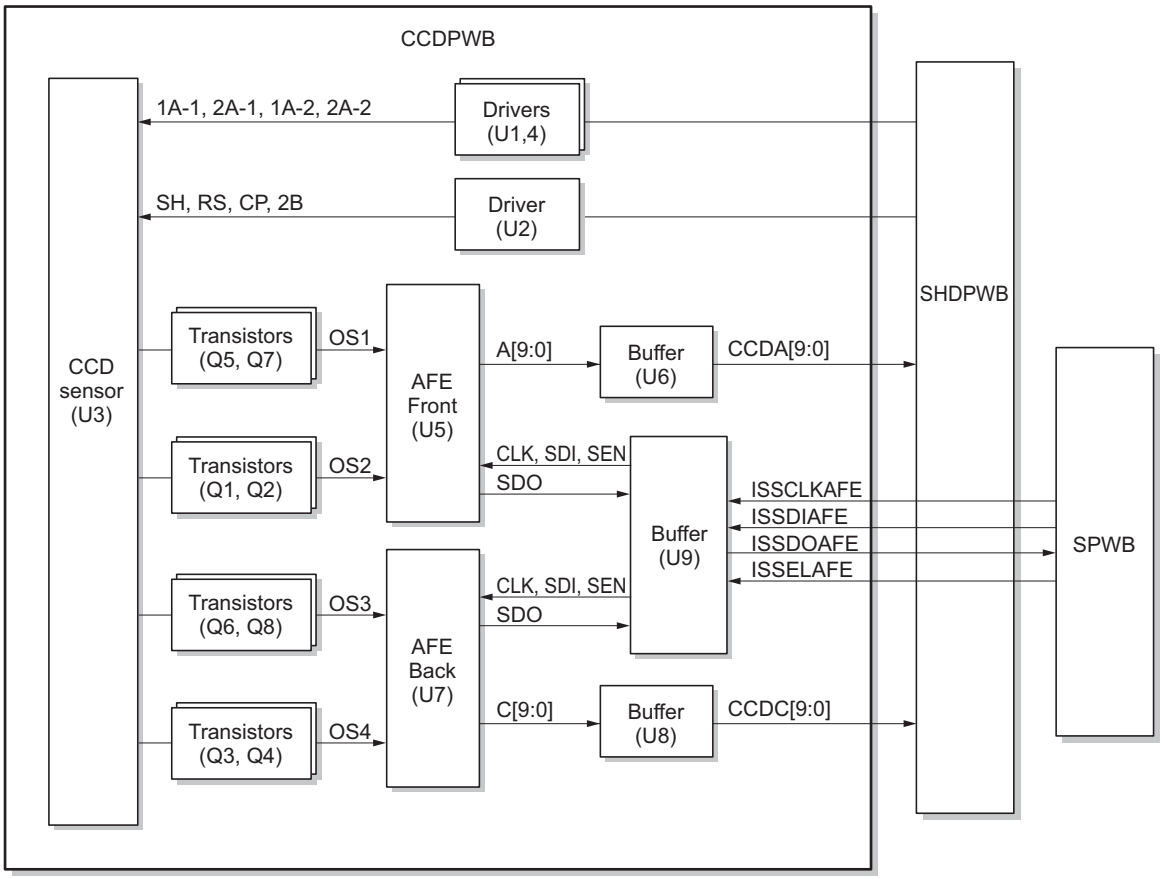


Figure 2-3-11 CCD PWB block diagram

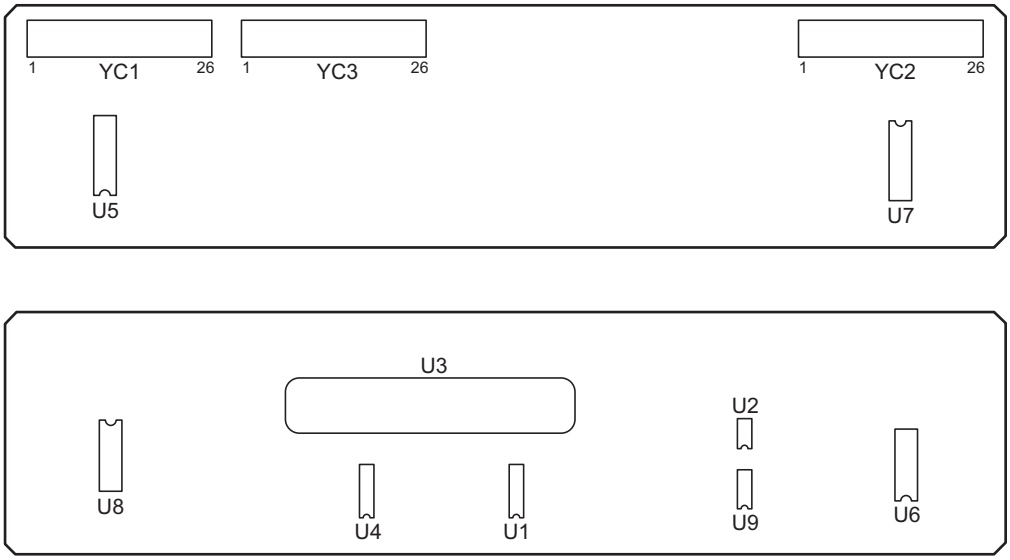


Figure 2-3-12 CCD PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	ADCLK-A	I	0/3.3 V DC (pulse)	CCD A/D clock signal
Connected to the SHD PWB	2	RESETN-A	I	0/3.3 V DC	CCD reset signal
	3	GND	-	-	Signal ground
	4	CCDA9	O	0/3.3 V DC (pulse)	Image data signal
	5	CCDA8	O	0/3.3 V DC (pulse)	Image data signal
	6	CCDA7	O	0/3.3 V DC (pulse)	Image data signal
	7	CCDA6	O	0/3.3 V DC (pulse)	Image data signal
	8	CCDA5	O	0/3.3 V DC (pulse)	Image data signal
	9	GND	-	-	Signal ground
	10	CCDA4	O	0/3.3 V DC (pulse)	Image data signal
	11	CCDA3	O	0/3.3 V DC (pulse)	Image data signal
	12	CCDA2	O	0/3.3 V DC (pulse)	Image data signal
	13	CCDA1	O	0/3.3 V DC (pulse)	Image data signal
	14	CCDA0	O	0/3.3 V DC (pulse)	Image data signal
	15	GND	-	-	Signal ground
	16	FESHD-A	I	0/3.3 V DC (pulse)	CCD SHD timing signal
	17	FECP-A	I	0/3.3 V DC (pulse)	CCD CP timing signal
	18	FESHP-A	I	0/3.3 V DC (pulse)	CCD SHP timing signal
	19	GND	-	-	Signal ground
	20	GND	-	-	Signal ground
	21	GND	-	-	Signal ground
	22	GND	-	-	Signal ground
	23	3.3V	O	3.3 V DC	3.3 V DC power output
	24	3.3V	O	3.3 V DC	3.3 V DC power output
	25	3.3V	O	3.3 V DC	3.3 V DC power output
	26	3.3V	O	3.3 V DC	3.3 V DC power output
YC2	1	ADCLK-B	I	0/3.3 V DC (pulse)	CCD A/D clock signal
Connected to the SHD PWB	2	RESETN-B	I	0/3.3 V DC	CCD reset signal
	3	GND	-	-	Signal ground
	4	CCDC9	O	0/3.3 V DC (pulse)	Image data signal
	5	CCDC8	O	0/3.3 V DC (pulse)	Image data signal
	6	CCDC7	O	0/3.3 V DC (pulse)	Image data signal
	7	CCDC6	O	0/3.3 V DC (pulse)	Image data signal
	8	CCDC5	O	0/3.3 V DC (pulse)	Image data signal
	9	GND	-	-	Signal ground
	10	CCDC4	O	0/3.3 V DC (pulse)	Image data signal
	11	CCDC3	O	0/3.3 V DC (pulse)	Image data signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2	12	CCDC2	O	0/3.3 V DC (pulse)	Image data signal
Connected to the SHD PWB	13	CCDC1	O	0/3.3 V DC (pulse)	Image data signal
	14	CCDC0	O	0/3.3 V DC (pulse)	Image data signal
	15	GND	-	-	Signal ground
	16	FESHD-B	I	0/3.3 V DC (pulse)	CCD SHD timing signal
	17	FECP-B	I	0/3.3 V DC (pulse)	CCD CP timing signal
	18	FESHP-B	I	0/3.3 V DC (pulse)	CCD SHP timing signal
	19	GND	-	-	Signal ground
	20	GND	-	-	Signal ground
	21	GND	-	-	Signal ground
	22	GND	-	-	Signal ground
	23	12V	O	12 V DC	12 V DC power output
	24	12V	O	12 V DC	12 V DC power output
	25	12V	O	12 V DC	12 V DC power output
	26	12V	O	12 V DC	12 V DC power output
YC3	1	1A-1	I	0/5 V DC (pulse)	CCD clock 1A signal
Connected to the SHD PWB	2	2A-1	I	0/5 V DC (pulse)	CCD clock 2A signal
	3	1A-2	I	0/5 V DC (pulse)	CCD clock 1A signal
	4	2A-2	I	0/5 V DC (pulse)	CCD clock 2A signal
	5	GND	-	-	Signal ground
	6	GND	-	-	Signal ground
	7	GND	-	-	Signal ground
	8	GND	-	-	Signal ground
	9	2B0	I	0/5 V DC (pulse)	CCD clock 2B signal
	10	SH0	I	0/5 V DC (pulse)	CCD clock SH signal
	11	GND	-	-	Signal ground
	12	RS0	I	0/5 V DC (pulse)	CCD clock RS signal
	13	CP0	I	0/5 V DC (pulse)	CCD clock CP signal
	14	GND	-	-	Signal ground
	15	ISSCLKAFE	I	0/5 V DC (pulse)	CCD clock signal
	16	ISSDIAFE	I	0/5 V DC (pulse)	CCD serial communication signal
	17	ISSDOAFE	O	0/5 V DC (pulse)	CCD serial communication signal
	18	ISSELAFE	I	0/5 V DC	CCD SEL signal
	19	GND	-	-	Signal ground
	20	GND	-	-	Signal ground
	21	GND	-	-	Signal ground
	22	GND	-	-	Signal ground
	23	CLK5V	O	5 V DC	5 V DC power output
	24	CLK5V	O	5 V DC	5 V DC power output
	25	CLK5V	O	5 V DC	5 V DC power output
	26	CLK5V	O	5 V DC	5 V DC power output

2-3-7 Deck PWB

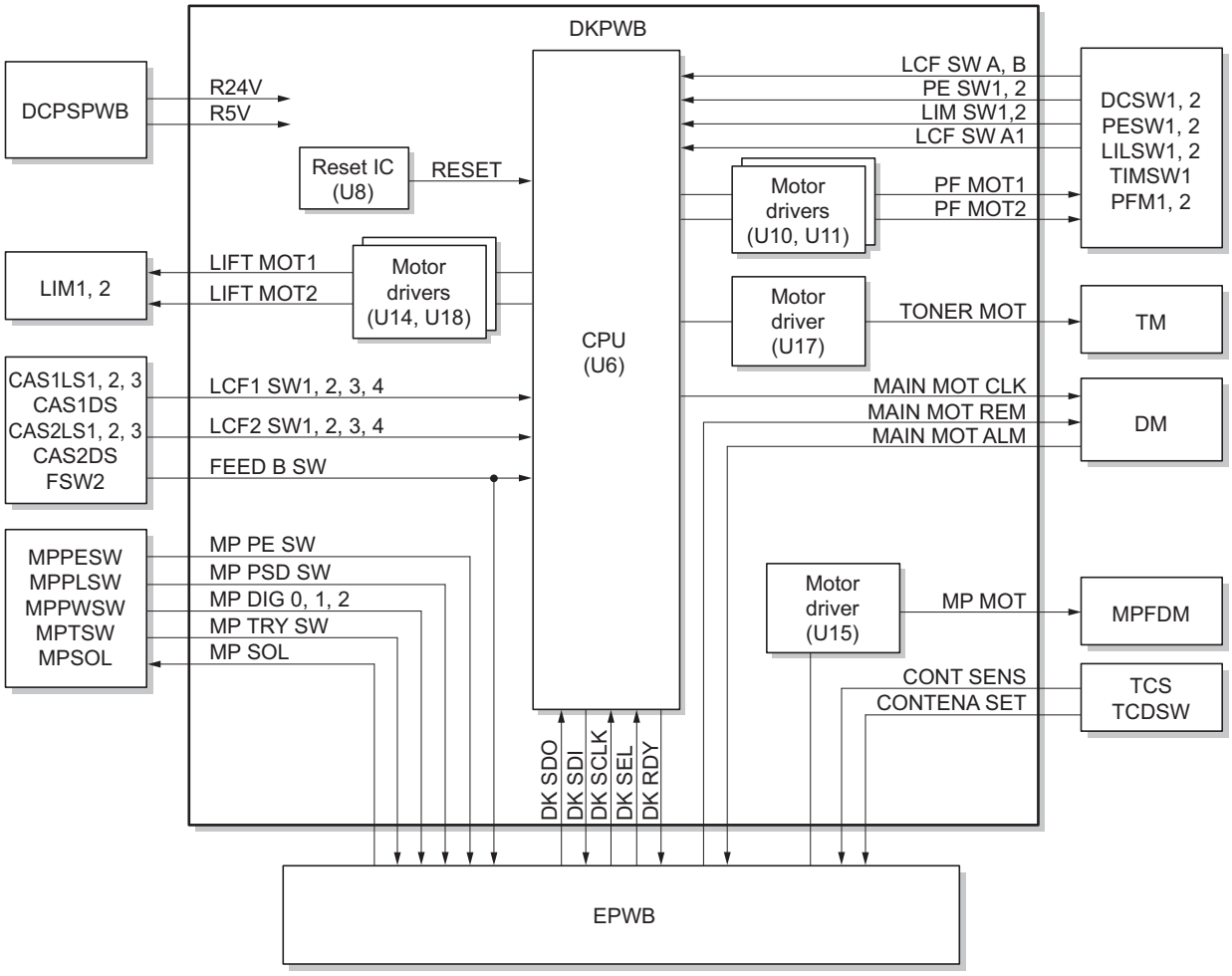


Figure 2-3-13 Deck PWB block diagram

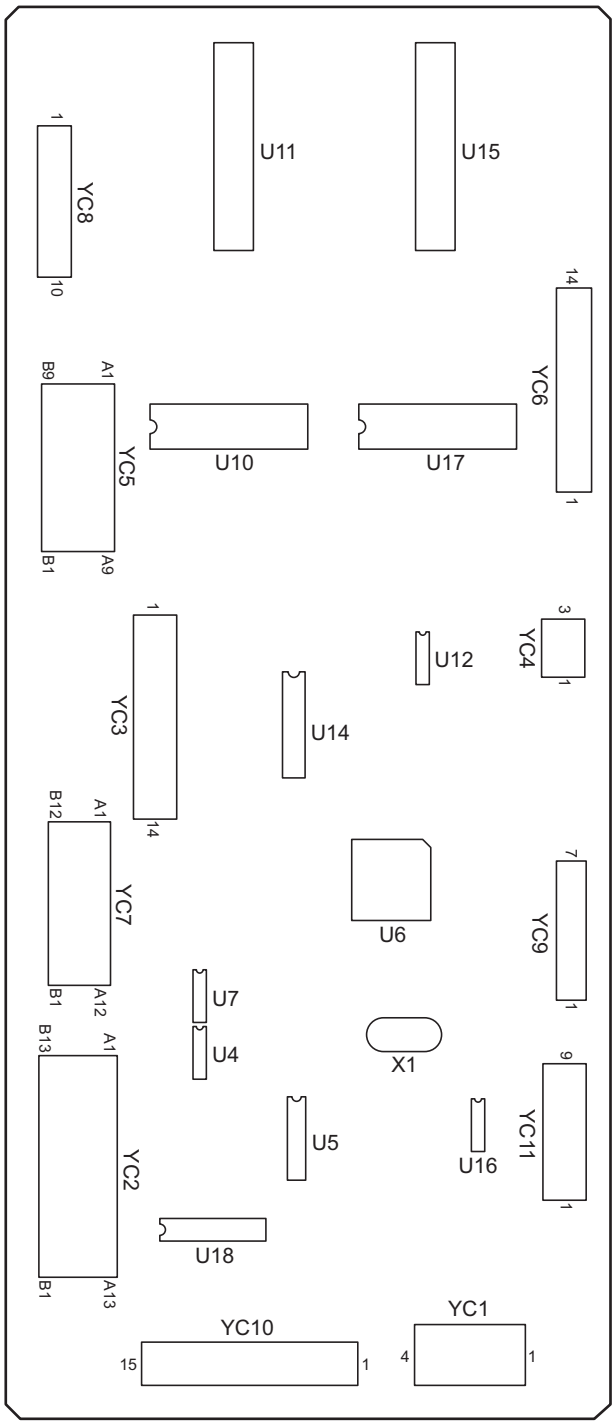


Figure 2-3-14 Deck PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V	I	24 V DC	24 V DC power input
Connected to the DC power source PWB	2	PGND	-	-	Power ground
	3	SGND	-	-	Signal ground
	4	5V	I	5 V DC	5 V DC power input
YC2	A1	CONT SENS	O	Analog	Toner container sensor detection signal
Connected to the engine PWB	A2	MP TRY SW	O	0/5 V DC	MP tray switch: On/off
	A3	MP PSD SW	O	0/5 V DC	MP paper length size switch: On/off
	A4	MP PE SW	O	0/5 V DC	MP paper empty switch: On/off
	A5	MP SOL RTN	I	0/24 V DC	MP solenoid (return): On/off
	A6	MP SOL PUL	I	0/24 V DC	MP solenoid (activate): On/off
	A7	FEED B SW	O	0/5 V DC	Feed switch 2: On/off
	A8	DK SEL(I)	I	0/5 V DC	Deck PWB SEL signal
	A9	DK RDY(O)	O	0/5 V DC	Deck PWB ready signal
	A10	DK SCLK(I)	I	0/5 V DC (pulse)	Deck PWB clock signal
	A11	DK SDO	I	0/5 V DC (pulse)	Deck PWB serial communication signal
	A12	DK SDI	O	0/5 V DC (pulse)	Deck PWB serial communication signal
	A13	SGND	-	-	Signal ground
	B1	CONT SET SW	O	0/5 V DC	Toner container detection switch: On/off
	B2	MP DIG0	O	0/5 V DC	MP paper width size switch: On/off
	B3	MP DIG1	O	0/5 V DC	MP paper width size switch: On/off
	B4	MP DIG2	O	0/5 V DC	MP paper width size switch: On/off
	B5	MP MOT CLK	I	0/5 V DC (pulse)	MP feed motor clock signal
	B6	MP MOT REM	I	0/5 V DC	MP feed motor: On/off
	B7	MP MOT HLD	I	0/5 V DC	MP feed motor hold signal
	B8	MP MOT MODE	I	0/5 V DC	MP feed motor mode signal
	B9	MP MOT CW	I	0/5 V DC	MP feed motor CWB signal
	B10	MAIN MOT REM	I	0/24 V DC	Drive motor: On/off
	B11	MAIN MOT ALM	O	0/5 V DC	Drive motor alarm signal
	B12	N.C	-	-	Not used
	B13	SGND	-	-	Signal ground
YC3	1	SGND	-	-	Signal ground
Connected to the cassette 1 level sensor 1/2/3, cassette 1 detection sensor and lift motor 1	2	LCF1 SW1	I	0/5 V DC	Cassette 1 level sensor 1: On/off
	3	5V	O	5 V DC	5 V DC power output
	4	SGND	-	-	Signal ground
	5	LCF1 SW2	I	0/5 V DC	Cassette 1 level sensor 2: On/off
	6	5V	O	5 V DC	5 V DC power output
	7	SGND	-	-	Signal ground
	8	LCF1 SW3	I	0/5 V DC	Cassette 1 level sensor 3: On/off
	9	5V	O	5 V DC	5 V DC power output
	10	SGND	-	-	Signal ground
	11	LCF1 SW4	I	0/5 V DC	Cassette 1 detection sensor: On/off
	12	5V	O	5 V DC	5 V DC power output
	13	LIFT MOT1 L	O	0/24 V DC	Lift motor 1: On/off
	14	LIFT MOT1 H	O	0/24 V DC	Lift motor 1: On/off
YC4	1	SGND	-	-	Signal ground
Connected to feed switch 2	2	FEED B SW	I	0/5 V DC	Feed switch 2: On/off
	3	5V	O	5 V DC	5 V DC power output

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	A1	24V	I	24 V DC	24 V DC power input
Connected to the MP tray unit	A2	MP SOL PUL	O	0/24 V DC	MP solenoid (activate): On/off
	A3	MP SOL RTN	O	0/24 V DC	MP solenoid (return): On/off
	A4	5V	O	5 V DC	5 V DC power output
	A5	MP PE SW	I	0/5 V DC	MP paper empty switch: On/off
	A6	SGND	-	-	Signal ground
	A7	5V	O	5 V DC	5 V DC power output
	A8	CONT SENS	I	Analog	Toner container detection signal
	A9	SGND	-	-	Signal ground
	B1	SGND	-	-	Signal ground
	B2	MP DIG2	I	0/5 V DC	MP paper width size switch: On/off
	B3	MP DIG1	I	0/5 V DC	MP paper width size switch: On/off
	B4	MP DIG0	I	0/5 V DC	MP paper width size switch: On/off
	B5	MP PSD SW	I	0/5 V DC	MP paper length size switch: On/off
	B6	SGND	-	-	Signal ground
	B7	SGND	-	-	Signal ground
	B8	MP TRY SW	I	0/5 V DC	MP tray switch: On/off
	B9	5V	O	5 V DC	5 V DC power output
YC6	1	MP MOT/A	O	0/24 V DC (pulse)	MP feed motor drive signal
Connected to the MP feed motor, toner motor and toner container detection switch	2	24V	O	24 V DC	24 V DC power output
	3	MP MOT A	O	0/24 V DC (pulse)	MP feed motor drive signal
	4	MP MOT B	O	0/24 V DC (pulse)	MP feed motor drive signal
	5	24V	O	24 V DC	24 V DC power output
	6	MP MOT/B	O	0/24 V DC (pulse)	MP feed motor drive signal
	7	TONER MOT/B	O	0/24 V DC (pulse)	Toner motor drive signal
	8	TONER MOT/A	O	0/24 V DC (pulse)	Toner motor drive signal
	9	TONER MOT B	O	0/24 V DC (pulse)	Toner motor drive signal
	10	TONER MOT A	O	0/24 V DC (pulse)	Toner motor drive signal
	11	SGND	-	-	Signal ground
	12	CONTENA SET	I	0/5 V DC	Toner container detection switch: On/off
	13	N.C	-	-	Not used
	14	N.C	-	-	Not used
YC7	A1	SGND	-	-	Signal ground
Connected to the deck conveying unit	A2	LCF SW B	I	0/5 V DC	Deck conveying switch 2: On/off
	A3	5V	O	5 V DC	5 V DC power output
	A4	SGND	-	-	Signal ground
	A5	LCF SW A	I	0/5 V DC	Deck conveying switch 1: On/off
	A6	5V	O	5 V DC	5 V DC power output
	A7	SGND	-	-	Signal ground
	A8	LCF SET	I	0/5 V DC	Deck conveying unit set signal
	A9	SGND	-	-	Signal ground
	A10	N.C	-	-	Not used
	A11	5V	O	5 V DC	5 V DC power output
	A12	LCF SW A1	I	0/5 V DC	Timing switch 1: On/off
	B1	SGND	-	-	Signal ground
	B2	LIM SW1	I	0/5 V DC	Lift limit switch 1: On/off
	B3	5V	O	5 V DC	5 V DC power output
	B4	SGND	-	-	Signal ground
	B5	PE SW1	I	0/5 V DC	Paper empty switch 1: On/off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	B6	5V	O	5 V DC	5 V DC power output
Connected to the deck conveying unit	B7	SGND	-	-	Signal ground
	B8	LIM SW2	I	0/5 V DC	Lift limit switch 2: On/off
	B9	5V	O	5 V DC	5 V DC power output
	B10	SGND	-	-	Signal ground
	B11	PE SW2	I	0/5 V DC	Paper empty switch 2: On/off
	B12	5V	O	5 V DC	5 V DC power output
YC8	1	PF MOT1/A	O	0/24 V DC (pulse)	Paper feed motor 1 drive signal
Connected to paper feed motor 1 and 2	2	R24V	O	24 V DC	24 V DC power output
	3	PF MOT1 A	O	0/24 V DC (pulse)	Paper feed motor 1 drive signal
	4	PF MOT1 B	O	0/24 V DC (pulse)	Paper feed motor 1 drive signal
	5	R24V	O	24 V DC	24 V DC power output
	6	PF MOT1/B	O	0/24 V DC (pulse)	Paper feed motor 1 drive signal
	7	PF MOT2 A	O	0/24 V DC (pulse)	Paper feed motor 2 drive signal
	8	PF MOT2 B	O	0/24 V DC (pulse)	Paper feed motor 2 drive signal
	9	PF MOT2/A	O	0/24 V DC (pulse)	Paper feed motor 2 drive signal
	10	PF MOT2/B	O	0/24 V DC (pulse)	Paper feed motor 2 drive signal
YC10	1	SGND	-	-	Signal ground
Connected to cassette 2 level sensor 1/2/3, cassette 2 detection sensor and lift motor 2	2	LCF2 SW1	I	0/5 V DC	Cassette 2 level sensor 1: On/off
	3	5V	O	5 V DC	5 V DC power output
	4	SGND	-	-	Signal ground
	5	LCF2 SW2	I	0/5 V DC	Cassette 2 level sensor 2: On/off
	6	5V	O	5 V DC	5 V DC power output
	7	SGND	-	-	Signal ground
	8	LCF2 SW3	I	0/5 V DC	Cassette 2 level sensor 3: On/off
	9	5V	O	5 V DC	5 V DC power output
	10	SGND	-	-	Signal ground
	11	LCF2 SW4	I	0/5 V DC	Cassette 2 detection sensor: On/off
	12	5V	O	5 V DC	5 V DC power output
	13	LIFT MOT2 L	O	0/24 V DC	Lift motor 2: On/off
	14	LIFT MOT2 H	O	0/24 V DC	Lift motor 2: On/off
	15	N.C	-	-	Not used
YC11	1	MAIN MOT CLK	O	0/5 V DC (pulse)	Drive motor clock signal
Connected to the drive motor	2	MAIN MOT ALM	I	0/5 V DC	Drive motor alarm signal
	3	MAIN MOT REM	O	0/24 V DC	Drive motor: On/off
	4	5V	O	5 V DC	5 V DC power output
	5	SGND	-	-	Signal ground
	6	PGND	-	-	Power ground
	7	PGND	-	-	Power ground
	8	24V	O	24 V DC	24 V DC power output
	9	24V	O	24 V DC	24 V DC power output

2-3-8 Cassette PWB

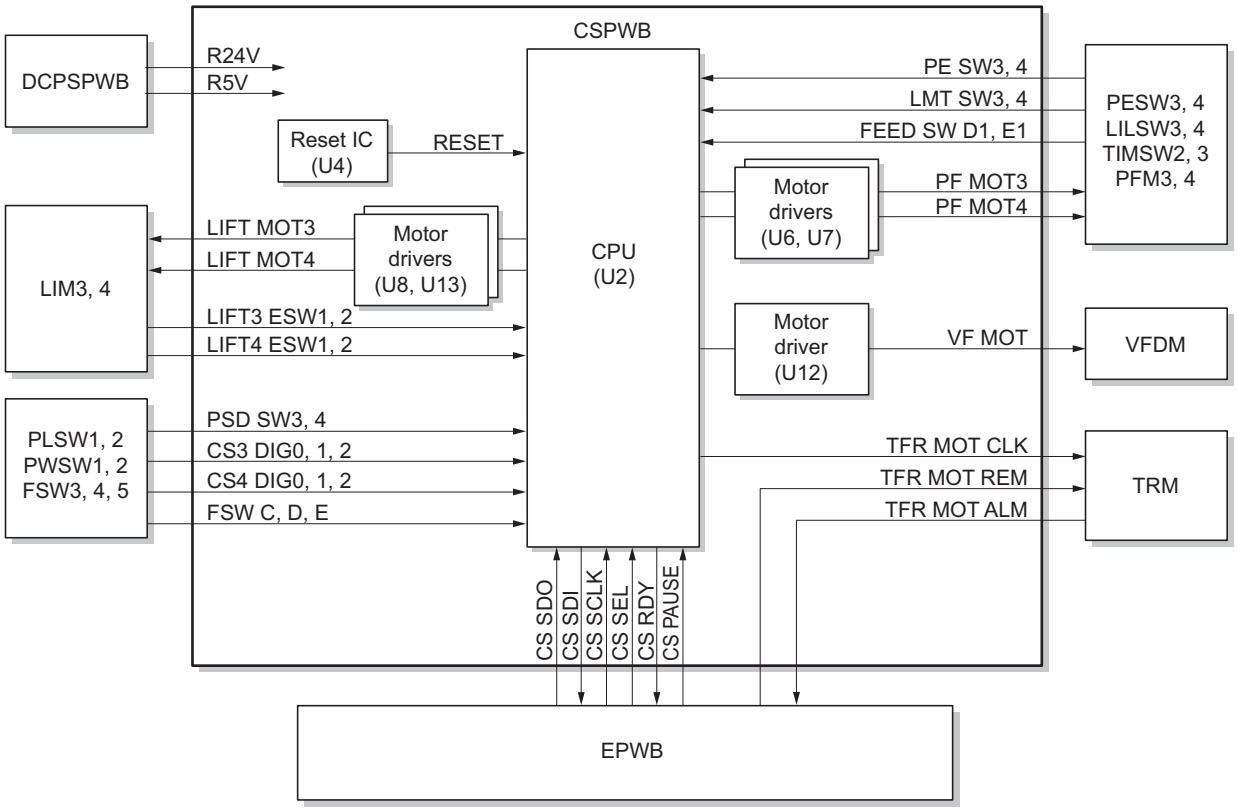


Figure 2-3-15 Cassette PWB block diagram

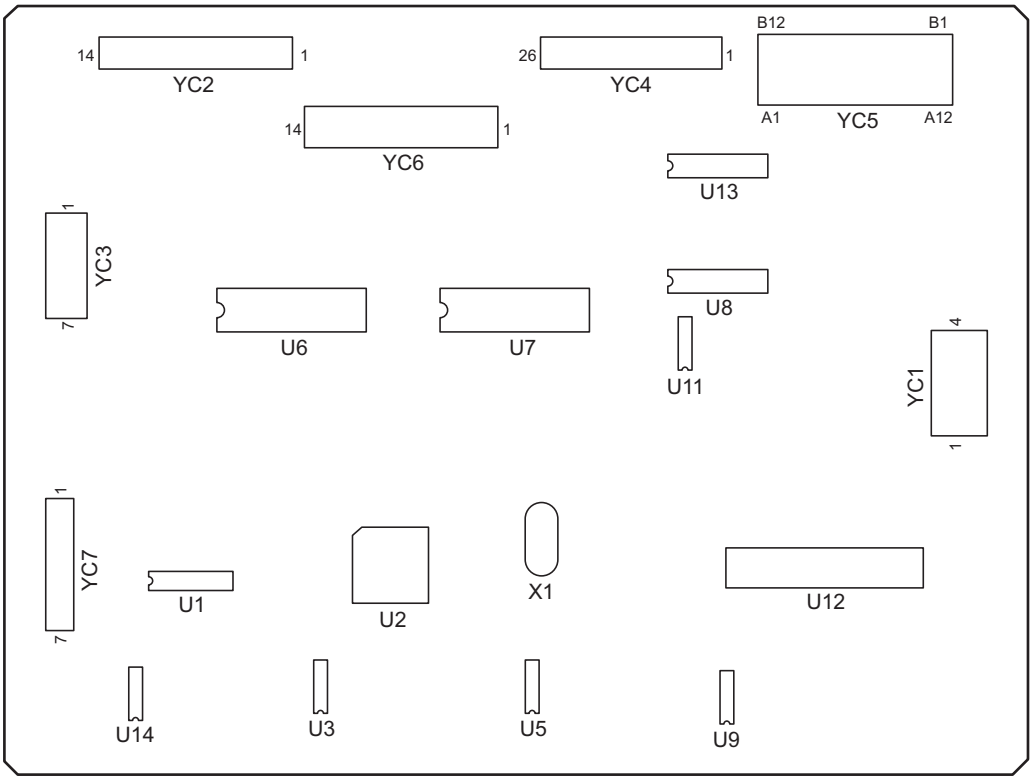


Figure 2-3-16 Cassette PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V	I	24 V DC	24 V DC power input
Connected to the DC power source PWB	2	PGND	-	-	Power ground
	3	SGND	-	-	Signal ground
	4	5V	I	5 V DC	5 V DC power input
YC2	1	5V	O	5 V DC	5 V DC power output
Connected to the engine PWB and waste toner sensor	2	DISPOSL SIG	I	0/5 V DC	Waste toner sensor: On/off
	3	SGND	-	-	Signal ground
	4	DISPOSL SIG	O	0/5 V DC	Waste toner sensor: On/off
	5	CS SEL(I)	I	0/5 V DC	Cassette PWB SEL signal
	6	CS RDY(O)	O	0/5 V DC	Cassette PWB ready signal
	7	CS SCLK(I)	I	0/5 V DC (pulse)	Cassette PWB clock signal
	8	CS SDO	I	0/5 V DC (pulse)	Cassette PWB serial communication signal
	9	CS SDI	O	0/5 V DC (pulse)	Cassette PWB serial communication signal
	10	CS PAUSE	I	0/5 V DC	Cassette PWB PAUSE signal
	11	TFR MOT REM	I	0/24 V DC	Transfer motor: On/off
	12	TFR MOT ALM	O	0/5 V DC	Transfer motor alarm signal
	13	SGND	-	-	Signal ground
	14	SGND	-	-	Signal ground
YC3	1	TFR MOT CLK	O	0/5 V DC (pulse)	Transfer motor clock signal
Connected to the transfer motor	2	TFR MOT ALM	I	0/5 V DC	Transfer motor alarm signal
	3	TFR MOT REM	O	0/24 V DC	Transfer motor: On/off
	4	5V	O	5 V DC	5 V DC power output
	5	PGND	-	-	Power ground
	6	PGND	-	-	Power ground
	7	R24V	O	24 V DC	24 V DC power output
YC4	1	5V	O	5 V DC	5 V DC power output
Connected to the primary paper feed unit, paper width size switch 1 and 2	2	5V	O	5 V DC	5 V DC power output
	3	LMT SW3	I	0/5 V DC	Lift limit switch 3: On/off
	4	LMT SW4	I	0/5 V DC	Lift limit switch 4: On/off
	5	SGND	-	-	Signal ground
	6	SGND	-	-	Signal ground
	7	5V	O	5 V DC	5 V DC power output
	8	5V	O	5 V DC	5 V DC power output
	9	PE SW3	I	0/5 V DC	Paper empty switch 3: On/off
	10	PE SW4	I	0/5 V DC	Paper empty switch 4: On/off
	11	SGND	-	-	Signal ground
	12	SGND	-	-	Signal ground
	13	SGND	-	-	Signal ground
	14	SGND	-	-	Signal ground
	15	CS3 DIG 2	I	0/5 V DC	Paper width size switch 1: On/off
	16	CS4 DIG 2	I	0/5 V DC	Paper width size switch 2: On/off
	17	CS3 DIG 1	I	0/5 V DC	Paper width size switch 1: On/off
	18	CS4 DIG 1	I	0/5 V DC	Paper width size switch 2: On/off
	19	CS3 DIG 0	I	0/5 V DC	Paper width size switch 1: On/off
	20	CS4 DIG 0	I	0/5 V DC	Paper width size switch 2: On/off
	21	5V	O	5 V DC	5 V DC power output
	22	5V	O	5 V DC	5 V DC power output
	23	FEED D1 SW	I	0/5 V DC	Timing switch 2: On/off
	24	FEED E1 SW	I	0/5 V DC	Timing switch 3: On/off
	25	SGND	-	-	Signal ground
	26	SGND	-	-	Signal ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	A1	LIFT3 ESW 2	I	0/5 V DC	Cassette 3 paper empty detection signal
Connected to lift motor 3/4, paper length size switch 1/2, feed switch 3/4/5	A2	SGND	-	-	Signal ground
	A3	LIFT3 ESW 1	I	0/5 V DC	Cassette 3 paper empty detection signal
	A4	LIFT MOT3 L	O	0/24 V DC	Lift motor 3: On/off
	A5	LIFT MOT3 H	O	0/24 V DC	Lift motor 3: On/off
	A6	LIFT4 ESW 2	I	0/5 V DC	Cassette 4 paper empty detection signal
	A7	SGND	-	-	Signal ground
	A8	LIFT4 ESW 1	I	0/5 V DC	Cassette 4 paper empty detection signal
	A9	LIFT MOT4 L	O	0/24 V DC	Lift motor 4: On/off
	A10	LIFT MOT4 H	O	0/24 V DC	Lift motor 4: On/off
	A11	SGND	-	-	Signal ground
	A12	PSD SW3	I	0/5 V DC	Paper length size switch 1: On/off
	B1	N.C	-	-	Not used
	B2	SGND	-	-	Signal ground
	B3	PSD SW4	I	0/5 V DC	Paper length size switch 2: On/off
	B4	SGND	-	-	Signal ground
	B5	FSW C	I	0/5 V DC	Feed switch 3: On/off
	B6	5V	O	5 V DC	5 V DC power output
	B7	SGND	-	-	Signal ground
	B8	FSW D	I	0/5 V DC	Feed switch 4: On/off
	B9	5V	O	5 V DC	5 V DC power output
	B10	SGND	-	-	Signal ground
	B11	FSW E	I	0/5 V DC	Feed switch 5: On/off
	B12	5V	O	5 V DC	5 V DC power output
YC6	1	VF MOT/A	O	0/24 V DC (pulse)	Vertical feed motor drive signal
Connected to the vertical feed motor, paper feed motor 3/4	2	24V	O	24 V DC	24 V DC power output
	3	VF MOT A	O	0/24 V DC (pulse)	Vertical feed motor drive signal
	4	VF MOT B	O	0/24 V DC (pulse)	Vertical feed motor drive signal
	5	24V	O	24 V DC	24 V DC power output
	6	VF MOT/B	O	0/24 V DC (pulse)	Vertical feed motor drive signal
	7	PF MOT4 A	O	0/24 V DC (pulse)	Paper feed motor 4 drive signal
	8	PF MOT4 B	O	0/24 V DC (pulse)	Paper feed motor 4 drive signal
	9	PF MOT4/A	O	0/24 V DC (pulse)	Paper feed motor 4 drive signal
	10	PF MOT4/B	O	0/24 V DC (pulse)	Paper feed motor 4 drive signal
	11	PF MOT3 A	O	0/24 V DC (pulse)	Paper feed motor 3 drive signal
	12	PF MOT3 B	O	0/24 V DC (pulse)	Paper feed motor 3 drive signal
	13	PF MOT3/A	O	0/24 V DC (pulse)	Paper feed motor 3 drive signal
	14	PF MOT3/B	O	0/24 V DC (pulse)	Paper feed motor 3 drive signal

2-3-9 Duplex PWB

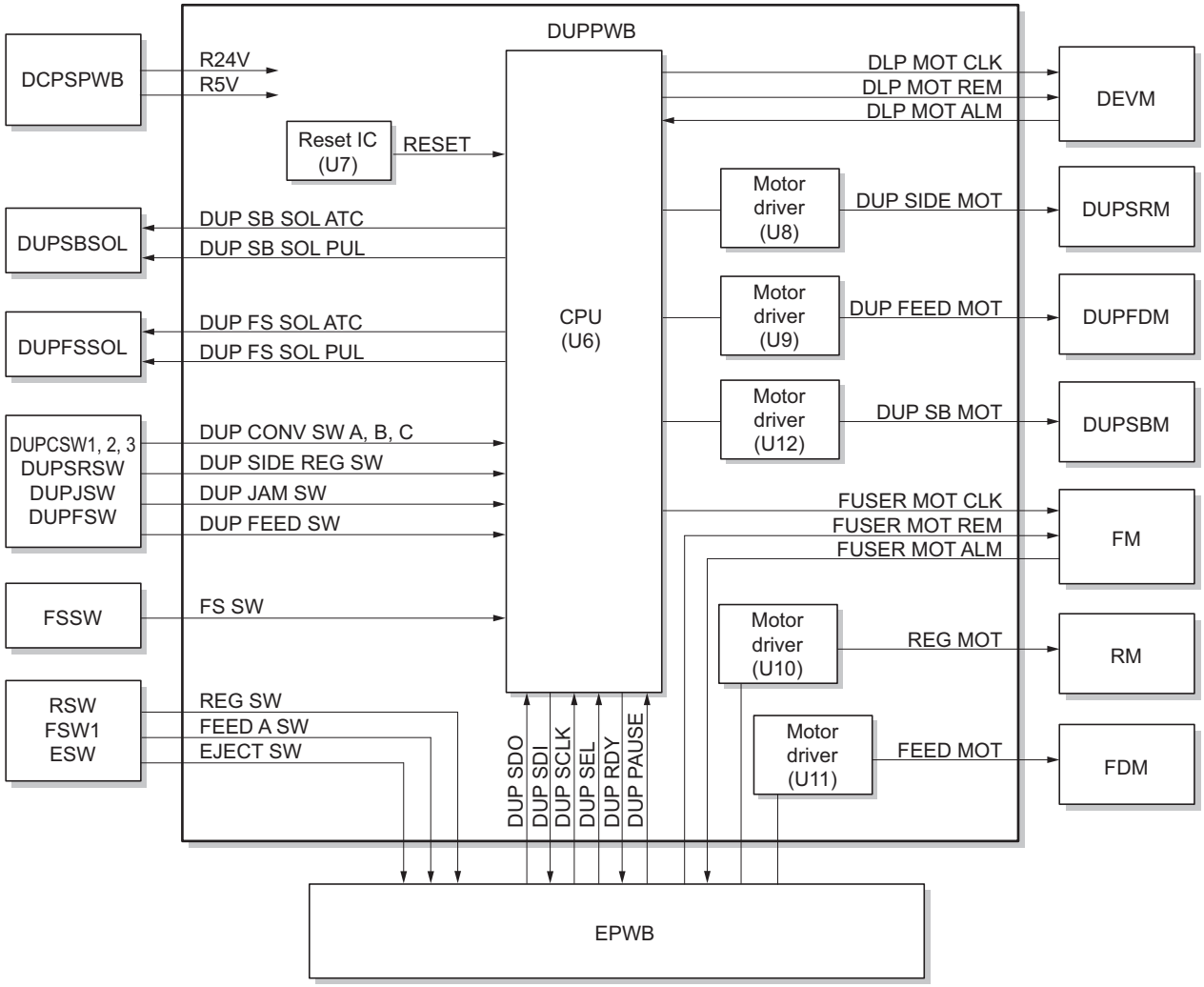


Figure 2-3-17 Duplex PWB block diagram

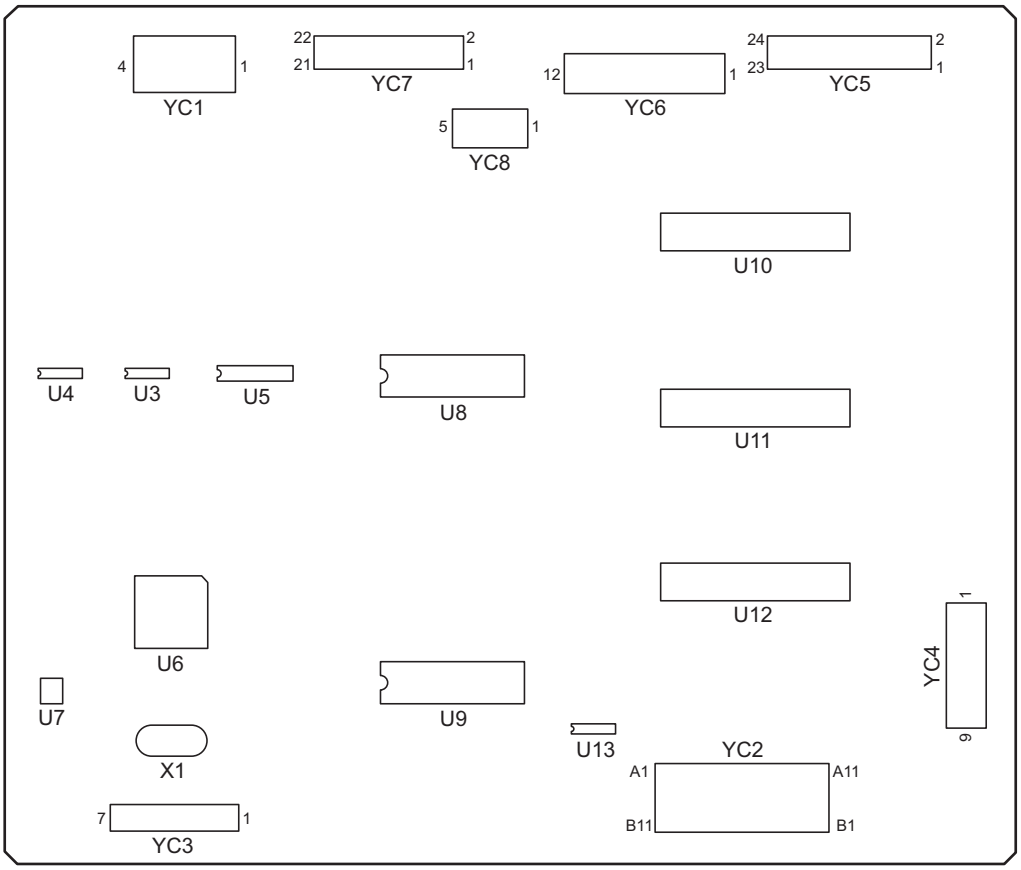


Figure 2-3-18 Duplex PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V	I	24 V DC	24 V DC power input
Connected to the DC power source PWB	2	PGND	-	-	Power ground
	3	SGND	-	-	Signal ground
	4	5V	I	5 V DC	5 V DC power input
YC2	A1	EJECT SW	O	0/5 V DC	Exit switch: On/off
Connected to the engine PWB	A2	FEED A SW	O	0/5 V DC	Feed switch 1: On/off
	A3	REG SW	O	0/5 V DC	Registration switch: On/off
	A4	N.C	-	-	Not used
	A5	DUP PAUSE	I	0/5 V DC	Duplex PWB PAUSE signal
	A6	DUP SEL(O)	I	0/5 V DC	Duplex PWB SEL signal
	A7	DUP RDY(I)	O	0/5 V DC	Duplex PWB ready signal
	A8	DUP SCLK(O)	I	0/5 V DC (pulse)	Duplex PWB clock signal
	A9	DUP SDO	I	0/5 V DC (pulse)	Duplex PWB serial communication signal
	A10	DUP SDI	O	0/5 V DC (pulse)	Duplex PWB serial communication signal
	A11	SGND	-	-	Signal ground
	B1	FUSER MOT REM	I	0/24 V DC	Fuser motor: On/off
	B2	FUSER MOT ALM	O	0/5 V DC	Fuser motor alarm signal
	B3	FEED MOT MODE	I	0/5 V DC	Feed motor mode signal
	B4	FEED MOT HLD	I	0/5 V DC	Feed motor hold signal
	B5	FEED MOT REM	I	0/5 V DC	Feed motor: On/off
	B6	FEED MOT CLK	I	0/5 V DC (pulse)	Feed motor clock signal
	B7	REG MOT MODE	I	0/5 V DC	Registration motor mode signal
	B8	REG MOT HLD	I	0/5 V DC	Registration motor hold signal
	B9	REG MOT REM	I	0/5 V DC	Registration motor: On/off
	B10	REG MOT CLK	I	0/5 V DC (pulse)	Registration motor clock signal
	B11	SGND	-	-	Signal ground
YC4	1	FUSER MOT CLK	O	0/5 V DC (pulse)	Fuser motor clock signal
Connected to the fuser motor	2	FUSER MOT ALM	I	0/5 V DC	Fuser motor alarm signal
	3	FUSER MOT REM	O	0/24 V DC	Fuser motor: On/off
	4	5V	O	5 V DC	5 V DC power output
	5	SGND	-	-	Signal ground
	6	PGND	-	-	Power ground
	7	PGND	-	-	Power ground
	8	R24V	O	24 V DC	24 V DC power output
	9	R24V	O	24 V DC	24 V DC power output

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	1	REG MOT/B	O	0/24 V DC (pulse)	Registration motor drive signal
Connected to the registration motor, feed motor, duplex side registration motor and duplex switchback motor	2	DUP FEED MOT/B	O	0/24 V DC (pulse)	Duplex feed motor drive signal
	3	24V	O	24 V DC	24 V DC power output
	4	DUP FEED MOT B	O	0/24 V DC (pulse)	Duplex feed motor drive signal
	5	REG MOT B	O	0/24 V DC (pulse)	Registration motor drive signal
	6	DUP FEED MOT A	O	0/24 V DC (pulse)	Duplex feed motor drive signal
	7	REG MOT A	O	0/24 V DC (pulse)	Registration motor drive signal
	8	DUP FEED MOT/A	O	0/24 V DC (pulse)	Duplex feed motor drive signal
	9	24V	O	24 V DC	24 V DC power output
	10	DUP SIDE MOT A	O	0/24 V DC (pulse)	Duplex side registration motor drive signal
	11	REG MOT/A	O	0/24 V DC (pulse)	Registration motor drive signal
	12	DUP SIDE MOT B	O	0/24 V DC (pulse)	Duplex side registration motor drive signal
	13	FEED MOT/B	O	0/24 V DC (pulse)	Feed motor drive signal
	14	DUP SIDE MOT/A	O	0/24 V DC (pulse)	Duplex side registration motor drive signal
	15	24V	O	24 V DC	24 V DC power output
	16	DUP SIDE MOT/B	O	0/24 V DC (pulse)	Duplex side registration motor drive signal
	17	FEED MOT B	O	0/24 V DC (pulse)	Feed motor drive signal
	18	DUP SB MOT A	O	0/24 V DC (pulse)	Duplex switchback motor drive signal
	19	FEED MOT A	O	0/24 V DC (pulse)	Feed motor drive signal
	20	DUP SB MOT B	O	0/24 V DC (pulse)	Duplex switchback motor drive signal
	21	24V	O	24 V DC	24 V DC power output
	22	DUP SB MOT/A	O	0/24 V DC (pulse)	Duplex switchback motor drive signal
	23	FEED MOT/A	O	0/24 V DC (pulse)	Feed motor drive signal
	24	DUP SB MOT/B	O	0/24 V DC (pulse)	Duplex switchback motor drive signal
YC6	1	5V	O	5 V DC	5 V DC power output
Connected to the conveying unit	2	REG SW	I	0/5 V DC	Registration switch: On/off
	3	SGND	-	-	Signal ground
	4	5V	O	5 V DC	5 V DC power output
	5	FEED A SW	I	0/5 V DC	Feed switch 1: On/off
	6	SGND	-	-	Signal ground
	7	5V	O	5 V DC	5 V DC power output
	8	EJECT SW	I	0/5 V DC	Exit switch: On/off
	9	SGND	-	-	Signal ground
	10	5V	O	5 V DC	5 V DC power output
	11	FS SW	I	0/5 V DC	Feedshift switch: On/off
	12	SGND	-	-	Signal ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	1	DUP FEED SW	I	0/5 V DC	Duplex feed switch: On/off
Connected to the duplex unit	2	N.C	-	-	Not used
	3	DUP CONV SW A	I	0/5 V DC	Duplex conveying switch 1: On/off
	4	N.C	-	-	Not used
	5	DUP CONV SW B	I	0/5 V DC	Duplex conveying switch 2: On/off
	6	24V	O	24 V DC	24 V DC power output
	7	DUP CONV SW C	I	0/5 V DC	Duplex conveying switch 3: On/off
	8	24V	O	24 V DC	24 V DC power output
	9	DUP JAM SW	I	0/5 V DC	Duplex jam detection switch: On/off
	10	24V	O	24 V DC	24 V DC power output
	11	DUP SIDE SW	I	0/5 V DC	Duplex side registration switch: On/off
	12	SGND	-	-	Signal ground
	13	DUP SET	I	0/5 V DC	Duplex unit detection signal
	14	DUP SB SOL PUL	O	0/24 V DC	Duplex switchback solenoid (activate): On/off
	15	5V	O	5 V DC	5 V DC power output
	16	DUP SB SOL ATC	O	0/24 V DC	Duplex switchback solenoid (return): On/off
	17	N.C	-	-	Not used
	18	24V	O	24 V DC	24 V DC power output
	19	DUP FS SOL ATC	O	0/24 V DC	Duplex feedshift solenoid (activate): On/off
	20	24V	O	24 V DC	24 V DC power output
	21	DUP FS SOL PUL	O	0/24 V DC	Duplex feedshift solenoid (activate): On/off
	22	N.C	-	-	Not used
YC8	1	24V	O	24 V DC	24 V DC power output
Connected to the devel-oping motor	2	PGND	-	-	Power ground
	3	DLP MOT REM	O	0/24 V DC	Developing motor: On/off
	4	DLP ALM	I	0/5 V DC	Developing motor alarm signal
	5	DLP CLK	O	0/5 V DC (pulse)	Developing motor clock signal

2-3-10 Operation PWB

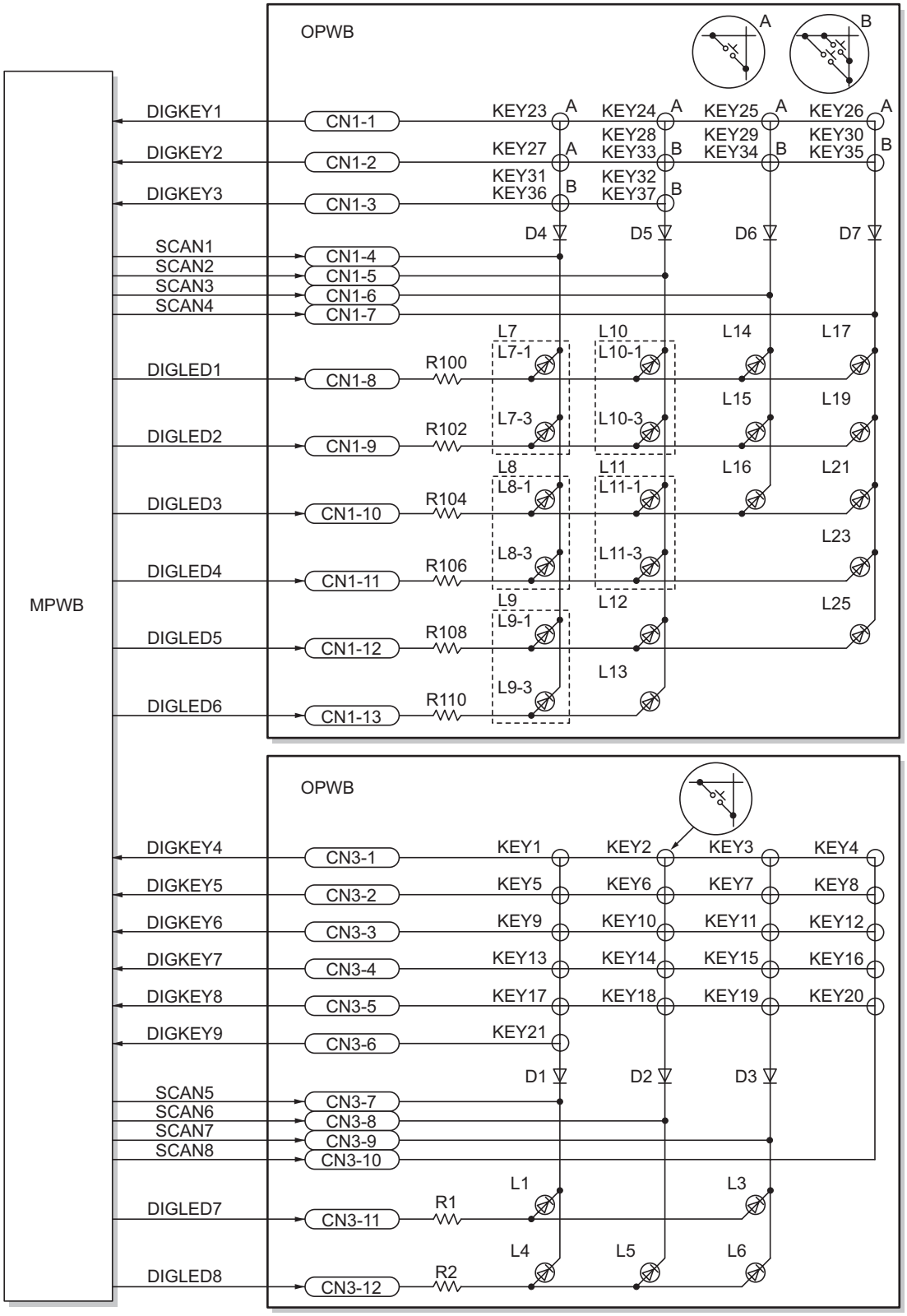


Figure 2-3-19 Operation PWB block diagram

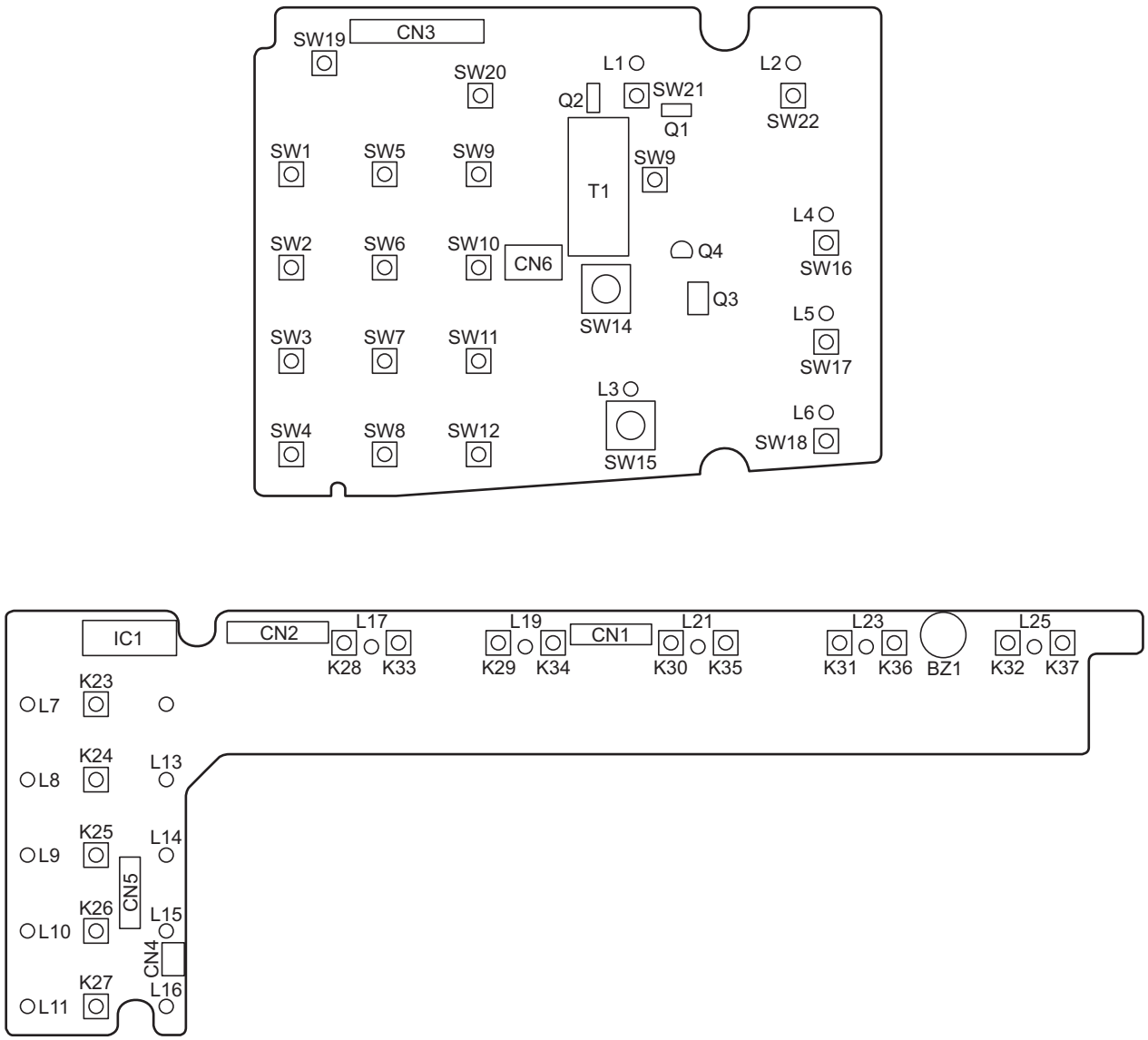


Figure 2-3-20 Operation PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
CN1	1	DIG KEY_1	O	0/5 V DC (pulse)	DIG KEY_1 signal
Connected to the main PWB	2	DIG KEY_2	O	0/5 V DC (pulse)	DIG KEY_2 signal
	3	DIG KEY_3	O	0/5 V DC (pulse)	DIG KEY_3 signal
	4	SCAN_1	I	0/5 V DC (pulse)	SCAN_1 signal
	5	SCAN_2	I	0/5 V DC (pulse)	SCAN_2 signal
	6	SCAN_3	I	0/5 V DC (pulse)	SCAN_3 signal
	7	SCAN_4	I	0/5 V DC (pulse)	SCAN_4 signal
	8	DIG LED_1	I	0/5 V DC (pulse)	DIG LED_1 signal
	9	DIG LED_2	I	0/5 V DC (pulse)	DIG LED_2 signal
	10	DIG LED_3	I	0/5 V DC (pulse)	DIG LED_3 signal
	11	DIG LED_4	I	0/5 V DC (pulse)	DIG LED_4 signal
	12	DIG LED_5	I	0/5 V DC (pulse)	DIG LED_5 signal
	13	DIG LED_6	I	0/5 V DC (pulse)	DIG LED_6 signal
CN2	1	VEE_OFF	I	0/5 V DC	LCD power control signal
Connected to the main PWB	2	LCD D3	I	0/5 V DC (pulse)	LCD data signal
	3	LCD D2	I	0/5 V DC (pulse)	LCD data signal
	4	LCD D1	I	0/5 V DC (pulse)	LCD data signal
	5	LCD D0	I	0/5 V DC (pulse)	LCD data signal
	6	LCD DISP OFF	I	0/5 V DC	LCD display: On/off
	7	LCD VSS2	-	-	Signal ground
	8	LCD VDD	I	5 V DC	5 V DC power input
	9	LCD VSS1	-	-	Signal ground
	10	LCD CP	I	0/5 V DC (pulse)	LCD CP signal
	11	LCD LOAD	I	0/5 V DC	LCD LOAD signal
	12	LCD FRAME	I	0/5 V DC	LCD FRAME signal
	13	Y2	I	Analog	Touch panel detection voltage Y2
	14	X2	I	Analog	Touch panel detection voltage X2
	15	Y1	O	Analog	Touch panel detection voltage Y1
	16	X1	O	Analog	Touch panel detection voltage X1
	17	BUZZER	I	0/5 V DC	BUZZER signal
CN3	1	DIG KEY_4	O	0/5 V DC (pulse)	DIG KEY_4 signal
Connected to the main PWB	2	DIG KEY_5	O	0/5 V DC (pulse)	DIG KEY_5 signal
	3	DIG KEY_6	O	0/5 V DC (pulse)	DIG KEY_6 signal
	4	DIG KEY_7	O	0/5 V DC (pulse)	DIG KEY_7 signal
	5	DIG KEY_8	O	0/5 V DC (pulse)	DIG KEY_8 signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	6	DIG KEY_9	O	0/5 V DC (pulse)	DIG KEY_9 signal
Connected to the main PWB	7	SCAN_5	I	0/5 V DC (pulse)	SCAN_5 signal
	8	SCAN_6	I	0/5 V DC (pulse)	SCAN_6 signal
	9	SCAN_7	I	0/5 V DC (pulse)	SCAN_7 signal
	10	SCAN_8	I	0/5 V DC (pulse)	SCAN_8 signal
	11	DIG LED_7	I	0/5 V DC (pulse)	DIG LED_7 signal
	12	DIG LED_8	I	0/5 V DC (pulse)	DIG LED_8 signal
	13	5V	I	5 V DC	5 V DC power input
	14	SGND	-	-	Signal ground
	15	LAMP OFF	I	0/5 V DC	LCD back light signal
	16	24V	I	24 V DC	24 V DC power input
	17	PGND	-	-	Power ground
	18	SGND	-	-	Signal ground
	19	PH_LED	I	0/5 V DC	Energy saver key LED display: On/off
	20	PH_KEY	O	0/5 V DC	Energy saver key: On/off

2-3-11 DP main PWB

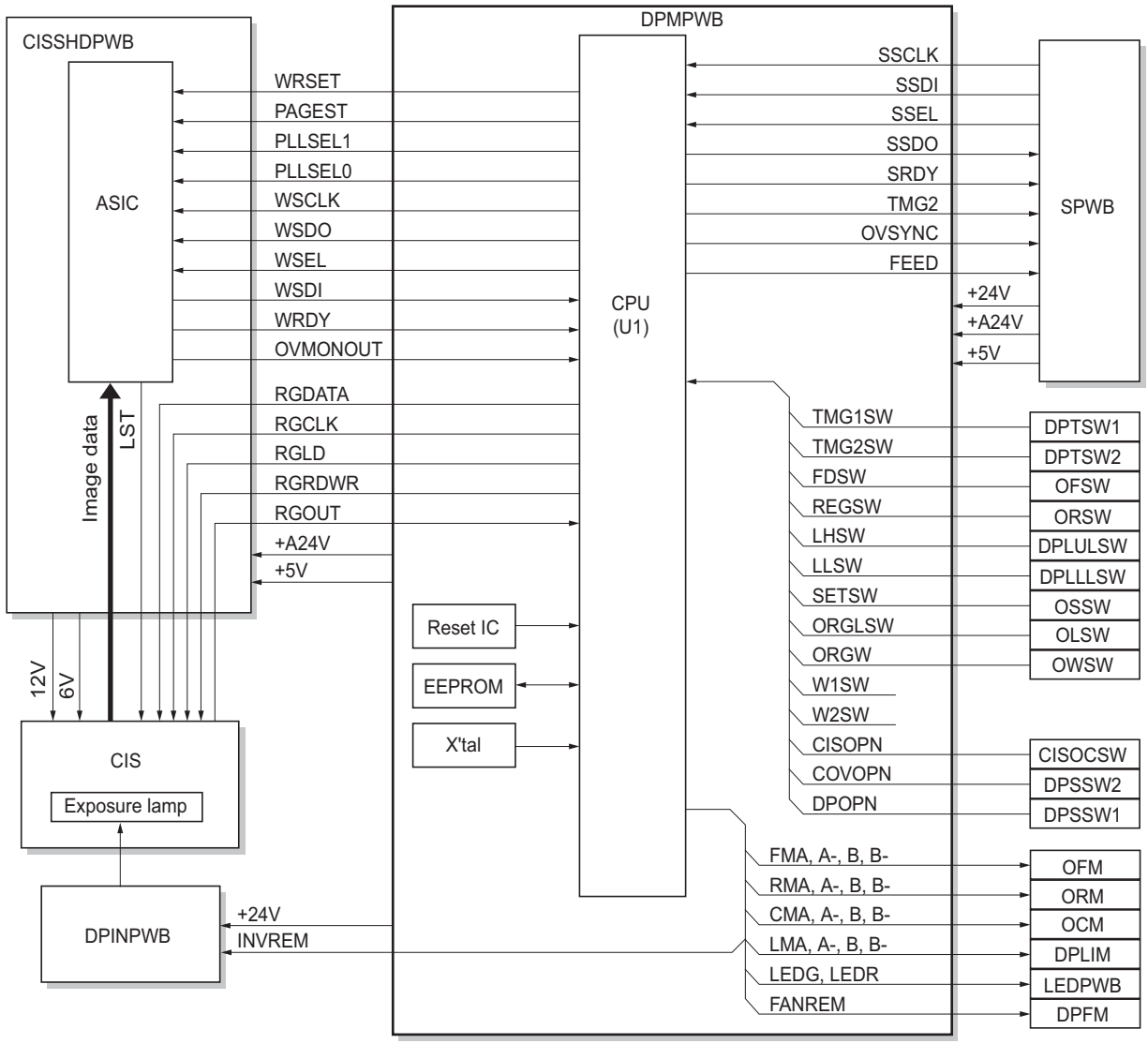


Figure 2-3-21 DP main PWB block diagram

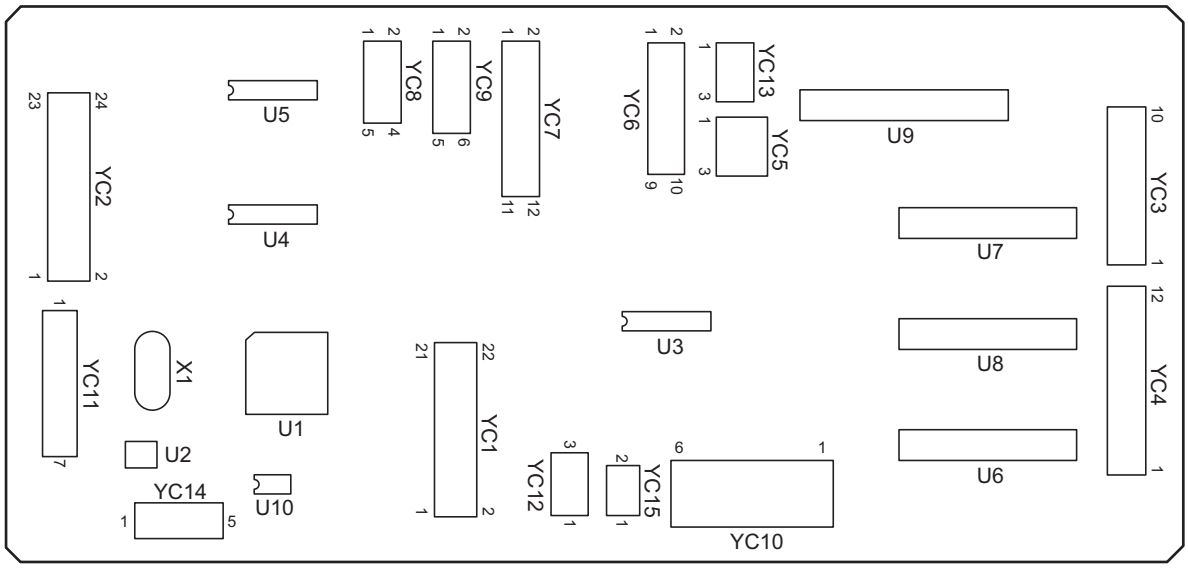


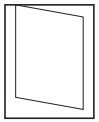
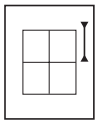
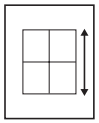
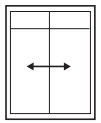
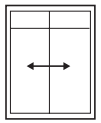
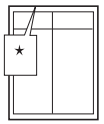
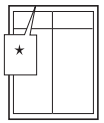
Figure 2-3-22 DP main PWB silk-screen diagram

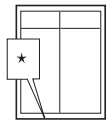
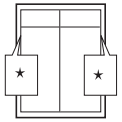
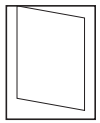
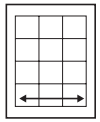
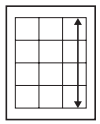
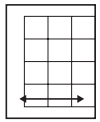
Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V	I	24 V DC	24 V DC power input
Connected to the scanner PWB	2	24V	I	24 V DC	24 V DC power input
	3	24V	I	24 V DC	24 V DC power input
	4	A24V	I	24 V DC	24 V DC power input
	5	A24V	I	24 V DC	24 V DC power input
	6	PGND	-	-	Power ground
	7	PGND	-	-	Power ground
	8	PGND	-	-	Power ground
	9	5V	I	5 V DC	5 V DC power input
	10	5V	I	5 V DC	5 V DC power input
	11	SGND	-	-	Signal ground
	12	SGND	-	-	Signal ground
	13	AGND	-	-	Analog ground
	14	AGND	-	-	Analog ground
	15	SSCLK	I	0/5 V DC (pulse)	DP clock signal
	16	SSDO	O	0/5 V DC (pulse)	DP serial communication signal
	17	SSDI	I	0/5 V DC (pulse)	DP serial communication signal
	18	SSEL	I	0/5 V DC	DP SEL signal
	19	SRDY	O	0/5 V DC	DP ready signal
	20	OVSYNC	I	0/5 V DC	OVSYNC signal
	21	TMG2	O	0/5 V DC	DP timing signal
	22	FEED	O	0/5 V DC	DP FEED signal
YC2	1	RGDATA	O	0/5 V DC	CIS data signal
Connected to the CIS SHD PWB	2	RGCLK	O	0/5 V DC (pulse)	CIS clock signal
	3	RGLD	O	0/5 V DC	CIS LD signal
	4	RGRDWR	O	0/5 V DC	CIS RDWR signal
	5	RGOUT	O	0/5 V DC	CIS OUT signal
	6	AGND	-	-	Analog ground
	7	AGND	-	-	Analog ground
	8	A24V	O	24 V DC	24 V DC power output
	9	A24V	O	24 V DC	24 V DC power output
	10	SGND	-	-	Signal ground
	11	SGND	-	-	Signal ground
	12	5V	O	5 V DC	5 V DC power output
	13	5V	O	5 V DC	5 V DC power output
	14	WREST	O	0/5 V DC	CIS reset signal
	15	PAGEST	O	0/5 V DC	PAGEST signal
	16	PLLSEL0	O	0/5 V DC	PLLSEL0 signal
	17	PLLSEL1	O	0/5 V DC	PLLSEL1 signal
	18	WSCLK	O	0/5 V DC (pulse)	CIS clock signal
	19	WSDO	I	0/5 V DC (pulse)	CIS serial communication signal
	20	WSDI	O	0/5 V DC (pulse)	CIS serial communication signal
	21	WSEL	O	0/5 V DC	CIS SEL signal
	22	WRDY	I	0/5 V DC	CIS ready signal
	23	OVMONOUT	I	0/5 V DC	OVMONOUT signal
	24	N.C	-	-	Not used

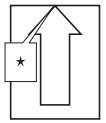
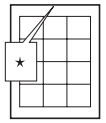
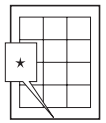
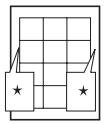
Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	1	FMCOMA	O	24 V DC	24 V DC power output
Connected to the original feed motor and DP lift motor	2	FMCOMB	O	24 V DC	24 V DC power output
	3	FMA	O	0/24 V DC (pulse)	Original feed motor drive signal
	4	FMB	O	0/24 V DC (pulse)	Original feed motor drive signal
	5	FM_A	O	0/24 V DC (pulse)	Original feed motor drive signal
	6	FM_B	O	0/24 V DC (pulse)	Original feed motor drive signal
	7	LM_B	O	0/24 V DC (pulse)	DP lift motor drive signal
	8	LMB	O	0/24 V DC (pulse)	DP lift motor drive signal
	9	LMA	O	0/24 V DC (pulse)	DP lift motor drive signal
	10	LM_A	O	0/24 V DC (pulse)	DP lift motor drive signal
YC4	1	RMCOMA	O	24 V DC	24 V DC power output
Connected to the original registration motor and original conveying motor	2	RMCOMB	O	24 V DC	24 V DC power output
	3	RMA	O	0/24 V DC (pulse)	Original registration motor drive signal
	4	RM_A	O	0/24 V DC (pulse)	Original registration motor drive signal
	5	RMB	O	0/24 V DC (pulse)	Original registration motor drive signal
	6	RM_B	O	0/24 V DC (pulse)	Original registration motor drive signal
	7	CCOMA	O	24 V DC	24 V DC power output
	8	CCOMB	O	24 V DC	24 V DC power output
	9	CMA	O	0/24 V DC (pulse)	Original conveying motor drive signal
	10	CMB	O	0/24 V DC (pulse)	Original conveying motor drive signal
	11	CM_A	O	0/24 V DC (pulse)	Original conveying motor drive signal
	12	CM_B	O	0/24 V DC (pulse)	Original conveying motor drive signal
YC5	1	GREEN	O	0/5 V DC	LED green: On/off
Connected to the LED PWB	2	GND	-	-	Signal ground
	3	RED	O	0/5 V DC	LED red: On/off
YC6	1	5V	O	5 V DC	5 V DC power output
Connected to the original set switch, DP lift upper limit switch and DP lift lower limit switch	2	SET SW	I	0/5 V DC	Original set switch: On/off
	3	SGND	-	-	Signal ground
	4	SGND	-	-	Signal ground
	5	5V	O	5 V DC	5 V DC power output
	6	LHSW	I	0/5 V DC	DP lift upper limit switch: On/off
	7	SGND	-	-	Signal ground
	8	5V	O	5 V DC	5 V DC power output
	9	LLSW	I	0/5 V DC	DP lift lower limit switch: On/off
	10	SGND	-	-	Signal ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	1	5V	O	5 V DC	5 V DC power output
Connected to the original feed switch, original registration switch, DP timing switch 1 and 2	2	FDSW	I	0/5 V DC	Original feed switch: On/off
	3	SGND	-	-	Signal ground
	4	5V	O	5 V DC	5 V DC power output
	5	REGSW	I	0/5 V DC	Original registration switch: On/off
	6	SGND	-	-	Signal ground
	7	5V	O	5 V DC	5 V DC power output
	8	TMG1SW	I	0/5 V DC	DP timing switch 1: On/off
	9	SGND	-	-	Signal ground
	10	5V	O	5 V DC	5 V DC power output
	11	TMG2SW	I	0/5 V DC	DP timing switch 2: On/off
	12	SGND	-	-	Signal ground
YC8	1	5V	O	5 V DC	5 V DC power output
Connected to the original length size switch and original width size switch	2	ORIG.LSW	I	0/5 V DC	Original length size switch: On/off
	3	SGND	-	-	Signal ground
	4	5V	O	5 V DC	5 V DC power output
	5	ORGW	I	0/5 V DC	Original width size switch: On/off
YC10	1	24V	O	24 V DC	24 V DC power output
Connected to DP safety switch 1 and 2	2	N.C	-	-	Not used
	3	24V DPOPNSW	I	0/24 V DC	DP safety switch 1: On/off
	4	24V	O	24 V DC	24 V DC power output
	5	N.C	-	-	Not used
	6	24V COVOP-NSW	I	0/24 V DC	DP safety switch 2: On/off
YC12	1	24V	O	24 V DC	24 V DC power output
Connected to the DP inverter PWB	2	INV REM	O	0/24 V DC	CIS control signal
	3	PGND	-	-	Power ground
YC13	1	5V	O	5 V DC	5 V DC power output
Connected to the CIS open/close switch	2	CISOPNSW	O	0/5 V DC	CIS open/close switch: On/off
	3	SGND	-	-	Signal ground
YC15	1	24V	O	24 V DC	24 V DC power output
Connected to the DP fan motor	2	FAN REM	O	0/24 V DC	DP fan motor: On/off

Chart of image adjustment procedures

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
①	Adjusting the lateral squareness (printing adjustment)		Adjusting the position of the laser scanner unit (printing adjustment)			U089 (1 dot-LINE)	1-6-49	
②	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Drive motor speed adjustment	U053	MAIN MOTOR	U053 test pattern	1-4-16	
③	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Polygon motor speed adjustment	U053	POLYGON MOTOR	U053 test pattern	1-4-16	
④	Adjusting the center line (printing adjustment)		Adjusting the LSU print start timing	U034	LSUOUT	U034 test pattern	1-6-27	To make an adjustment for duplex copying, select LSUOUT (DUP).
⑤	Adjusting the center line of the cassettes (printing adjustment)		Adjusting the position of cassette 1 or 2	U034	LSUOUT	U034 test pattern	1-6-15	Adjusts the position of each paper source.
⑥	Adjusting the leading edge registration (printing adjustment)		Registration motor turning on timing (secondary paper feed start timing)	U034	RCL ON L RCL ON S	U034 test pattern	1-6-25	To make an adjustment for duplex copying, select RCL ON (DUP) L/ RCL ON (DUP) S.
⑦	Adjusting the leading edge margin (printing adjustment)		LSU illumination start timing	U402	LEAD	U402 test pattern	1-6-28	

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
⑧	Adjusting the trailing edge margin (printing adjustment)		LSU illumination end timing	U402	TRAIL	U402 test pattern	1-6-28	To make an adjustment for duplex copying, select TRAIL (DUP).
⑨	Adjusting the left and right margins (printing adjustment)		LSU illumination start/end timing	U402	A/C	U402 test pattern	1-6-28	
⑩	Adjusting the lateral squareness (scanning adjustment)		Adjusting the position of the ISU (scanning adjustment)			Test chart	1-6-50	
⑪	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment)		Data processing	U065	MAIN SCAN ADJ	Test chart	1-6-51	No adjustment for copying using the document processor.
⑫	Adjusting magnification of the scanner in the auxiliary scanning direction (scanning adjustment)		Original scanning speed	U065 U070	SUB SCAN ADJ CONVEY SPEED	Test chart	1-6-52 1-6-91	U065: For copying an original placed on the contact glass. U070: For copying originals from the document processor. To make an adjustment for CIS, select CIS SUB ADJ.
⑬	Adjusting the center line (scanning adjustment)		Adjusting the original scan data (image adjustment)	U067 U072	ADJUST DATA ADJUST DATA	Test chart	1-6-53 1-6-92	U067: For copying an original placed on the contact glass. U072: For copying originals from the document processor. To make an adjustment for CIS, select ADJUST DATA2. To make an adjustment for rotate copying, select ADJUST DATA3.

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
⑭	Adjusting the leading edge registration (scanning adjustment)		Original scan start timing	U066 U071	ADJUST DATA ADJUST DATA1	Test chart	1-6-54 1-6-93	U066: For copying an original placed on the contact glass. U071: For copying originals from the document processor. To make an adjustment for CIS, select ADJUST DATA3. To make an adjustment for rotate copying, select ADJUST DATA5.
⑮	Adjusting the leading edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	B MARGIN B MARGIN	Test chart	1-6-55 1-6-95	U403: For copying an original placed on the contact glass. U404: For copying originals from the document processor. To make an adjustment for CIS, select B MARGIN (BACK).
⑯	Adjusting the trailing edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	D MARGIN D MARGIN	Test chart	1-6-55 1-6-95	U403: For copying an original placed on the contact glass. U404: For copying originals from the document processor. To make an adjustment for CIS, select D MARGIN (BACK).
⑰	Adjusting the left and right margins (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	A MARGIN/ C MARGIN A MARGIN/ C MARGIN	Test chart	1-6-55 1-6-95	U403: For copying an original placed on the contact glass. U404: For copying originals from the document processor. To make an adjustment for CIS, select A MARGIN (BACK)/C MARGIN (BACK).

When maintenance item U092 (Adjusting the scanner automatically) is run using the specified original (P/N 2A068021), the following adjustments are automatically made:
Adjusting the scanner center line (U067)
Adjusting the scanner magnification in the main scanning direction (U065)
Adjusting the scanner leading edge registration (U066)
Adjusting the scanner magnification in the auxiliary scanning direction (U065)

When maintenance item U076 (Executing DP automatic adjustment) is run using the specified original (P/N 2A068021), the following adjustments are automatically made:
Adjusting the DP magnification (U070)
Adjusting the DP scanning timing (U071)
Adjusting the DP center line (U072)

Image quality

Item	Specifications
100% magnification	Copier: ±0.8% Using DP: ±1.5%
Enlargement/reduction	Copier: ±1.0% Using DP: ±1.5%
Lateral squareness (copier mode)	Copier: ±1.5 mm/375 mm Using DP: ±2.5 mm/375 mm
Lateral squareness (printer mode)	±1.0 mm/375 mm
Margins (copier mode)	A: 3.0±2.0 mm B: 3.0± 2.5 mm C: 3.0±2.0 mm D: 3.0 ±2.5mm
Margins (printer mode)	A: 5.0 mm B: 5.0 mm C: 5.0 mm D: 5.5 mm
Leading edge registration	Cassette: ±2.5 mm MP tray: ±2.5 mm Duplex copying: ±2.5 mm Using DP: ±3.0 mm
Skewed paper feed (left-right difference)	Cassette: 1.5 mm or less MP tray: 1.5 mm or less Duplex copying: 2.0 mm or less Using DP: Simplex-Simplex: 2.0 mm or less Simplex-Duplex: 2.5 mm or less Duplex-Simplex: 2.5 mm or less Duplex-Duplex: 3.0 mm or less
Lateral image shifting	Cassette: ±2.0 mm or less MP tray: ±2.0 mm or less Duplex copying: ±3.0 mm or less Using DP: Simplex-Simplex: 2.5 mm or less Simplex-Duplex: 3.5 mm or less Duplex-Simplex: 3.0 mm or less Duplex-Duplex: 3.5 mm or less
Curling	Simplex copying: 10.0 mm or less Duplex copying: 10.0 mm or less

Maintenance parts list

Maintenance part name			Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
Paper feed pulley	PULLEY FEED		7	48
			7	74
			10	21
Forwarding pulley	PULLEY LEADING FEED		7	46
			7	72
			10	19
Separation pulley	LOWER PULLEY FEED		7	41
			10	9
MP paper feed pulley	PULLEY FEED		9	40
MP forwarding pulley	PULLEY LEADING FEED		9	36
MP separation pulley	LOWER PULLEY FEED		9	22
Feed pulley	UPPER ROLLER REGIST		13	46
Deck conveying roller	LOWER ROLLER REGIST		13	15
Main charger unit	PARTS,MC-650		17	A05
Main charger wire cleaning pad	PARTS,MC CLEANING PAD ASS'Y SP		17	A07
Main charger wire	WIRE,MAIN CHARGER		17	34
Main charger grid	PARTS,GRID ASS'Y SP		17	A08
Slit glass	CONTACT GLASS,ADF		16	7
Contact glass	CONTACT GLASS		16	4
Mirror 1	MIRROR A		15	35
Mirror 2	MIRROR B		15	30
Reflector	REFLECTOR SCANNER		15	38
Exposure lamp	LAMP SCANNER YG		15	40
Original size detection sensor	SENSOR ORIGINAL		15	58
Drum	PARTS,DRUM ASS'Y		17	A02
Potential sensor	SENSOR SURFACE POTENTIAL		32	9
Drum heater electrode	PARTS,DRUM ELECTRODE ASS'Y		17	A01
Developing unit	PARTS,DV-650		18	A01
Transfer belt	PARTS TC BELT SP		12	58
Transfer roller	ROLLER TRANSFER		12	43
Idle belt roller	IDLE BELT ROLLER		12	40
Transfer belt roller	ROLLER BELT DRIVE		12	55
Transfer ground roller	TC GROUND ROLLER		12	64
Transfer rear guide film	REAR FILM TRANSFER		12	68
Transfer rear brush	REAR BRUSH TRANSFER CLEANING		12	78
Cleaning unit	PARTS,CLEANING ASS'Y		19	A01
Cleaning lamp	LAMP CLEANING		17	29
PTC unit	PARTS,PTC ASS'Y		17	A03
PTC cleaning pad	PARTS,PTC CLEANIG PAD ASS'Y SP		17	13
PTC wire	TUNGSTEN WIRE(OX) SP (50M)		17	15
Lower cleaning roller	LOWER ROLLER CLEANING		21	17
Press roller	ROLLER PRESSURE		21	12
Press roller separation claw	CLAW,PRESS ROLLER		21	19
Cleaning felt	FELT,CLEANING		21	63
Fuser thermistor	THERMISTOR FUSER		21	32
Fuser heater M	HEATER M120 FUSER HEATER M240 FUSER		21	46
Fuser heater S	HEATER S120 FUSER HEATER S240 FUSER		21	44

Maintenance part name				Fig. No.	Ref. No.
Name used in service manual	Name used in parts list				
Fuser heater L	HEATER L120 FUSER HEATER L240 FUSER			21	48
Heat roller	ROLLER HEAT			21	21
Heat roller separation claw	SEPARATOR FUSER ASSY			22	16
Heat roller gear	GEAR 50 HEAT ROLLER B			21	25
Fuser joint gear	GEAR FUSER JOINT B			21	43
Fuser eject upper roller	UPPER ROLLER FUSER EJECT			22	4
Gear 88 fuser	GEAR 88 FUSER			23	55
Duplex feedshift solenoid	SOLENOID STOPPER			27	37
Duplex switchback solenoid	SOLENOID B CLEANING			28	18
Feedshift solenoid	SOLENOID STOPPER			14	27
Eject roller	ROLLER EJECT			29	13
Eject pulley	PULLEY EJECT			29	19
DP original feed belt	BELT PF			39	43
DP forwarding pulley	PULLEY LF			39	34
DP separation roller	PULLEY SEPARATION			39	23
Original set switch	SENSOR,CONVEYING			36	18
Original feed switch	SWITCH REGISTRATION			34	11
Conveying roller	ROLLER CONVEYING ASS'Y			37	26
Registration roller	ROLLER REGISTRATION			37	30
Registration pulley	PULLEY,REGISTRATION			34	14
Conveying pulley	PULLEY CONVEYING			34 37 38	8 6 7
Eject roller	ROLLER EJECT			39	4
Eject pulley	PULLEY EJECT			34	25
Reading guide	GUIDE READING			37	14
Original registration switch	SWITCH REGISTRATION			39	29
DP timing switch 1	SWITCH REGISTRATION			37	8
DP timing switch 2	SWITCH REGISTRATION			37	8
Lift pad	FELT DUPLEX			39	53
Registration guide pad	FELT DUPLEX			37	52
CIS roller	ROLLER CIS			38	15
CIS	SENSOR A3 CIS			41	3
Original length size switch	SENSOR ORIGINAL			36	23
Document processor bottom cover	PARTS,MAT ASS'Y SP			34	A01
Waste toner box	DISPOSAL TANK ASS'Y (OPTION)			20	26
Developing rear fan filter	REAR DLP FILTER B ASS'Y			1	61
Developing front fan filter 1	FRONT FILTER DLP FAN			17	49
Developing front fan filter 2	FRONT FILTER IMAGE FAN			17	50
Image formation fan filter	FILTER MC FAN			17	48
Front cover filter 1	FILTER FRONT COVER D			1	20
Front cover filter 2	FILTER FRONT COVER E			1	21
Front cover filter 3	FILTER FRONT COVER F			1	22
Ozone filter 1	OZONE FILTER B			1	71
Ozone filter 2	OZONE FILTER C			1	72
Ozone filter 3	OZONE FILTER			25	24

Periodic maintenance procedures

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Test copy and test print	Perform at the maximum copy size	Test copy	Every service		

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Paper feed section	Paper feed pulleys	Replace	Every service	Replace after feeding 500,000 sheets.	P.1-6-3 P.1-6-10
	Forwarding pulleys	Replace	Every service	Replace after feeding 500,000 sheets.	P.1-6-3 P.1-6-10
	Separation pulleys	Replace	Every service	Replace after feeding 500,000 sheets.	P.1-6-3 P.1-6-10
	MP paper feed pulley	Clean Check and replace	Every service	Clean with alcohol or a dry cloth. Replace after feeding 250,000 sheets.	P.1-6-19
	MP forwarding pulley	Clean Check and replace	Every service	Clean with alcohol or a dry cloth. Replace after feeding 250,000 sheets.	P.1-6-19
	MP separation pulley	Clean Check and replace	Every service	Clean with alcohol or a dry cloth. Replace after feeding 250,000 sheets.	P.1-6-19
	Timing switch 1	Clean	Every service	Air brush.	
	Timing switch 2	Clean	Every service	Air brush.	
	Timing switch 3	Clean	Every service	Air brush.	
	Feed pulley	Clean	Every service	Clean with alcohol or a dry cloth.	
	Deck conveying roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Main charging section	Main charger unit	Clean Check and replace	Every service	Clean the shield with a wet cloth and then a dry cloth.	P.1-6-31
	Main charger wire cleaning pad	Replace	Every service		P.1-6-32
	Main charger wire	Replace	Every service		P.1-6-33
	Main charger grid	Clean Check and replace	Every service	Clean the shield with a wet cloth and then a dry cloth. Replace if the grid is damaged or bending.	P.1-6-32

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Optical section	Slit glass	Clean	Every service	Clean with a dry cloth (do not clean with a wet cloth nor alcohol).	
	Contact glass	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Mirror 1	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Mirror 2	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Scanner lens	Clean	Every service	Clean with a dry cloth.	
	Reflector	Clean	Every service	Clean with alcohol.	
	Exposure lamp	Check or replace	Every service	Replace if an image problem occurs. Run maintenance item U990 to check the accumulated time and replace the lamp if the time exceeds more than 60,000 min.	P.1-6-34 P.1-4-75
	Optical rail	Grease	Every service	Check noise and shifting and then apply scanner rail grease PG-671.	
	Original size detection sensor	Clean	Every service	Clean the sensor emitter and sensor receiver with alcohol or a dry cloth only if there is a problem.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Drum section	Drum	Clean Check and replace	Every service	Clean with a dry cloth. Replace if the scratches on the drum.	P.1-6-56
	Potential sensor	Clean	Every service	Air blow (do not vacuum).	
	Drum heater electrode	Clean Check and replace	Every service	Clean with a dry cloth. Replace if the resistance between the disk and electrode is 10 Ω or more.	P.1-6-59

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Developing section	Developing unit	Replace	Every service		P.1-6-60

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Transfer section	Transfer belt	Replace	Every service		P.1-6-63
	Transfer roller	Replace	Every service		P.1-6-65
	Idle belt roller	Clean	Every service	Clean with a wet cloth and then a dry cloth.	
	Transfer belt roller	Clean	Every service	Clean with a wet cloth and then a dry cloth.	
	Transfer ground roller	Clean	Every service	Clean with a wet cloth and then a dry cloth. Check the continuity between roller and ground screw.	
	Transfer rear guide film	Clean	Every service	Clean with alcohol or a dry cloth.	
	Transfer rear brush	Clean	Every service	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Cleaning section	Cleaning unit	Replace	Every service		P.1-6-66
	Cleaning lamp	Clean	Every service	Clean with a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Charge erasing section	PTC unit	Clean Check and replace	Every service	Clean the shield with a wet cloth and then a dry cloth.	P.1-6-68
	PTC cleaning pad	Replace	Every service		P.1-6-68
	PTC wire	Replace	Every service		P.1-6-69

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Fuser section	Lower cleaning roller	Replace	Every service		P.1-6-71
	Press roller	Replace	Every service		P.1-6-72
	Press roller separation claws	Clean	Every service		
	Cleaning felt	Replace	Every service		P.1-6-73
	Fuser thermistor	Check and replace	Every service	Replace if the film is scraped.	P.1-6-75
	Fuser heater M/S/L	Check and replace	Every service	Replace if it is blackened.	P.1-6-76
	Heat roller	Replace	Every service		P.1-6-79
	Heat roller separation claws	Replace	Every service		P.1-6-80
	Heat roller gear	Check and replace	Every service		P.1-6-79
	Fuser joint gear	Replace and grease	Every service	When replacing with the new gear, after cleaning the shaft, apply grease EM-50L to the gear inside.	P.1-6-79
	Fuser eject upper roller	Replace	Every service	Replace after feeding 1000,000 sheets.	P.1-6-81
	Gear 88 fuser	Grease	Every service	Apply grease EM-50LS.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Duplex section	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	
	Duplex feedshift solenoid	Check and replace	Every service		
	Duplex switchback solenoid	Check and replace	Every service	Run maintenance item U922 to check and clear the count.	P.1-4-72

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Feedshift section	Feedshift solenoid	Check and replace	Every service	Run maintenance item U922 to check and clear the count.	P.1-4-72
	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Eject section	Eject roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Eject pulleys	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
DP section	DP original feed belt	Check and clean	After feeding 250,000 sheets	Clean with alcohol.	P.1-6-83
	DP forwarding pulley	Check and clean	After feeding 250,000 sheets	Clean with alcohol.	P.1-6-83
	DP separation roller	Check and clean	After feeding 250,000 sheets	Clean with alcohol.	P.1-6-83
	Original set switch	Clean	Every service	Clean with airbrush or a dry cloth.	
	Original feed switch	Clean	Every service	Clean with airbrush or a dry cloth.	
	Conveying roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	Registration pulley	Clean	Every service	Clean with alcohol or a dry cloth.	
	Conveying pulley	Clean	Every service	Clean with alcohol or a dry cloth.	
	Eject pulley	Clean	Every service	Clean with alcohol or a dry cloth.	
	Reading guide	Clean	Every service	Clean with alcohol or a dry cloth.	
	Original registration switch	Clean	Every service	Clean with airbrush or a dry cloth.	
	DP timing switch 1	Clean	Every service	Clean with airbrush or a dry cloth.	
	DP timing switch 2	Clean	Every service	Clean with airbrush or a dry cloth.	
	Lift pad	Clean	Every service	Clean with airbrush or a dry cloth.	
	Registration guide pad	Clean	Every service	Clean with airbrush or a dry cloth.	
	CIS roller	Clean	Every service	Clean with alcohol or a dry cloth.	
	CIS	Clean	Every service	Clean with a dry cloth (do not clean with a wet cloth nor alcohol).	P.1-6-87
	Original length size switch	Clean	Every service	Clean with airbrush or a dry cloth.	
	Document processor bottom cover	Clean	Every service	Clean with a dry cloth or alcohol.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Covers	Covers	Clean	Every service	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Other	Waste toner box	Replace	Every service		P.1-6-96
	Developing rear fan filter	Replace	Every service		P.1-6-97
	Developing front fan filter 1	Replace	Every service		P.1-6-97
	Developing front fan filter 2	Replace	Every service		P.1-6-97
	Image formation fan filter	Replace	Every service		P.1-6-98
	Front cover filter 1	Replace	Every service		P.1-6-99
	Front cover filter 2	Replace	Every service		P.1-6-99
	Front cover filter 3	Replace	Every service		P.1-6-99
	Ozone filter 1	Replace	Every service		P.1-6-100
	Ozone filter 2	Replace	Every service		P.1-6-100
	Ozone filter 3	Replace	Every service		P.1-6-100
	Image quality	Check and adjust	Every service		

Maintenance kits

Maintenance kit part name		
Name used in service manual	**Name**	
Maintenance kit A <For 120 V specifications> PTC unit Main charger unit Transfer belt unit Fuser unit Paper feed pulley unit Heat roller separation craw unit <For 220-240 V specifications> PTC unit Main charger unit Transfer belt unit Fuser unit Paper feed pulley unit Heat roller separation craw unit	 MK-650A(A) PTC ASS'Y MCH ASS'Y TC BELT ASS'Y FUSER ASS'Y 120 UPPER PULLEY FEED ASS'Y HEAT CLAW ASS'Y MK-650A(E) PTC ASS'Y MCH ASS'Y TC BELT ASS'Y FUSER ASS'Y 240 UPPER PULLEY FEED ASS'Y HEAT CLAW ASS'Y	
Maintenance kit B Waste toner box Separation pulley Cleaning unit Cleaning unit protect cover Front cover filter 1 Front cover filter 2 Front cover filter 3 Developing unit Developing rear fan filter Drum heater electrode DP original feed belt DP forwarding pulley DP separation roller Ozone filter 1 Ozone filter 2 Ozone filter 3 Image formation fan filter Developing front fan filter 1 Developing front fan filter 2	MK-650B DISPOSAL TANK ASS'Y LOWER PULLEY FEED CLEANING ASS'Y COVER CLN PROTECTION FILTER FRONT COVER D FILTER FRONT COVER E FILTER FRONT COVER F DEVELOPING ASS'Y (SP) REAR DLP FILTER ASS'Y*1 REAR DLP FILTER B ASS'Y*2 PARTS,DRUM ELECTRODE ASS'Y BELT PF PULLEY LF PULLEY SEPARATION OZONE FILTER B OZONE FILTER C OZONE FILTER FILTER MC FAN FRONT FILTER DLP FAN FRONT FILTER IMAGE FAN	

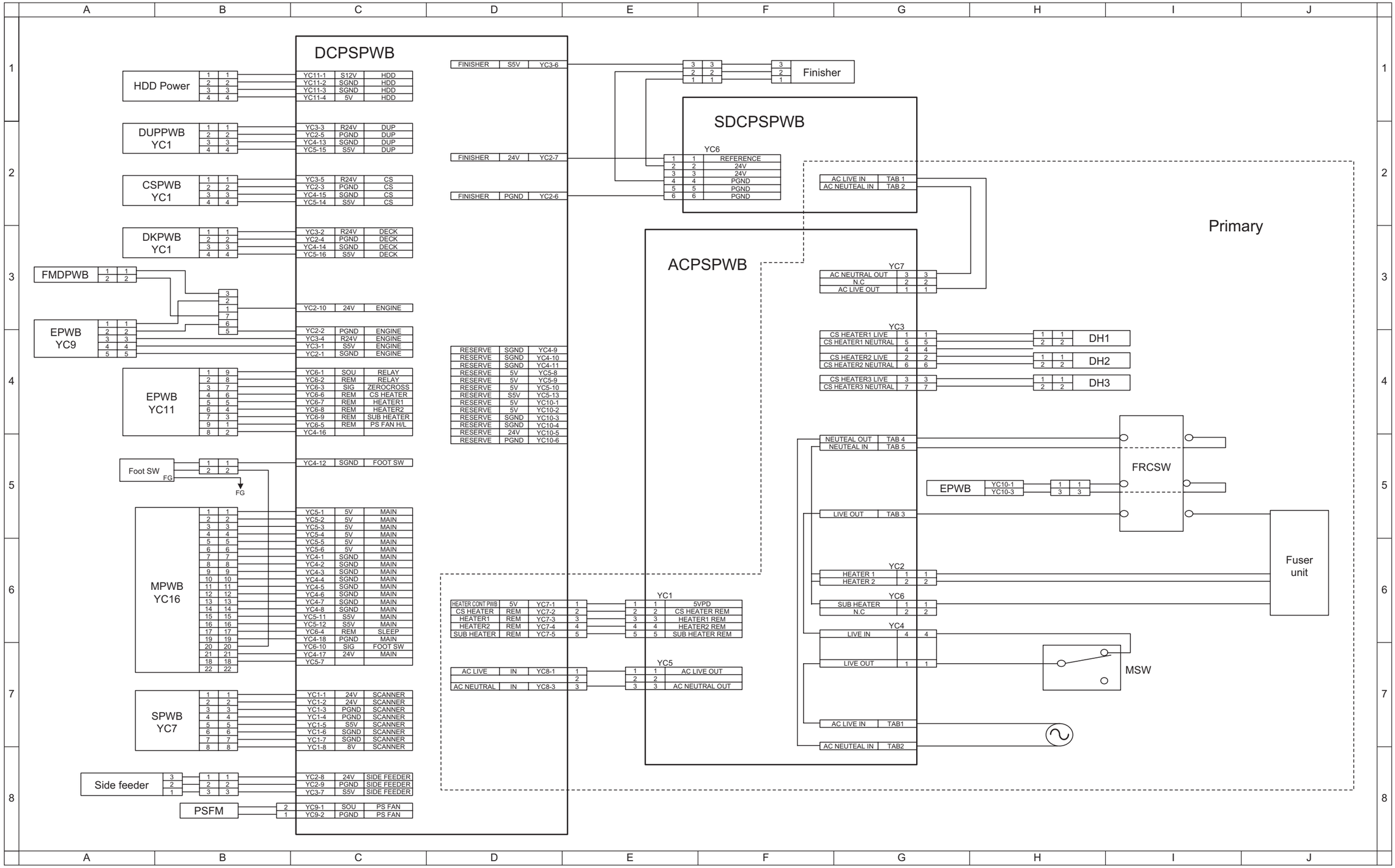
*1: 120 V specifications only (for the machine produced in before June, 2005).
*2: For the machine produced in July, 2005 and after.

Parts kits

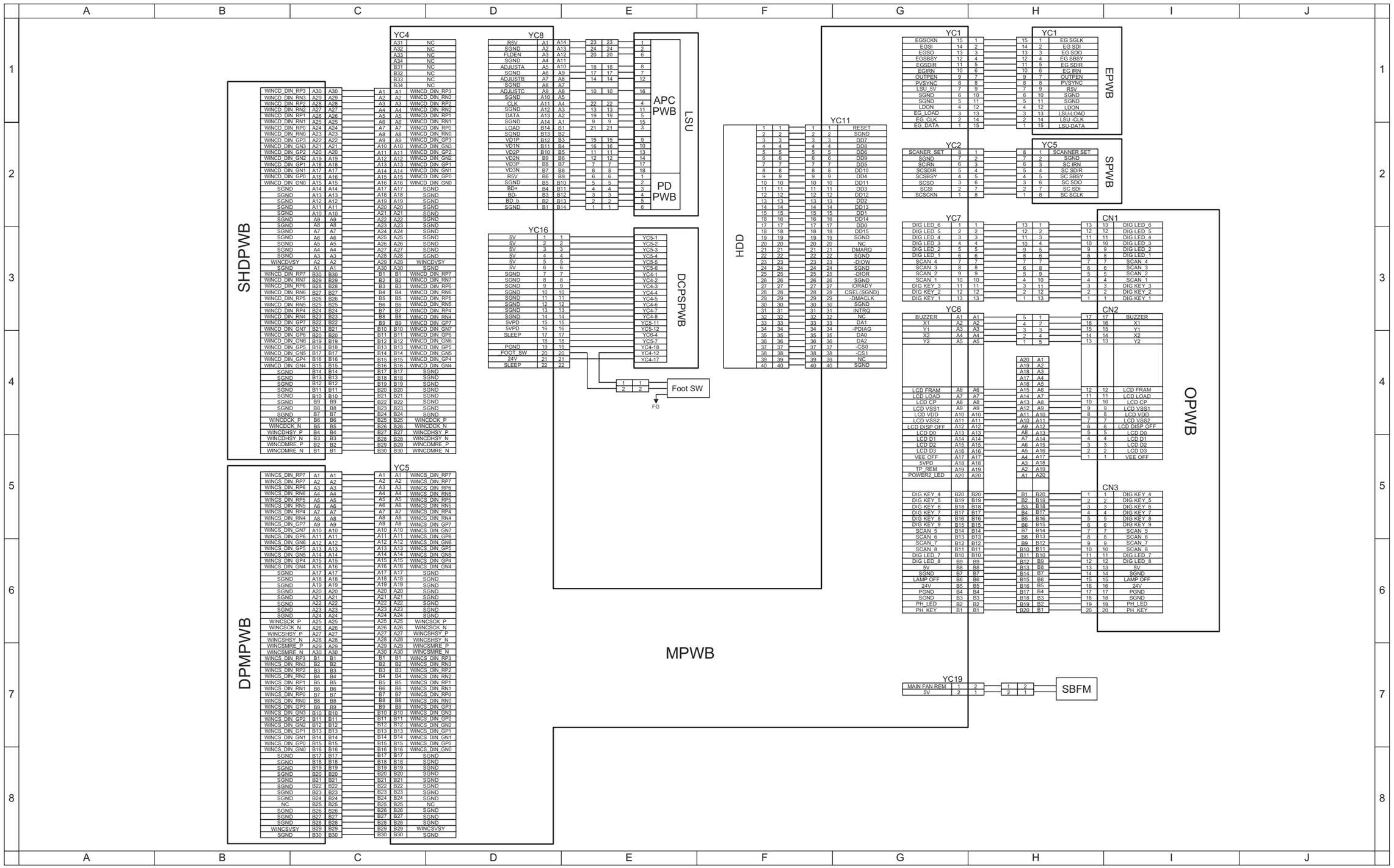
Parts kit part name		
Name used in service manual	**Name**	
Parts kit A	PM-650A	
Cleaning felt	FELT,CLEANING	
Heat roller separation claw	SEPARATOR FUSER ASSY	
Forwarding pulley	PULLEY LEADING FEED	
Paper feed pulley	PULLEY FEED	
Transfer roller	ROLLER TRANSFER	
Press roller	ROLLER PRESSURE	
Heat roller gear	GEAR 50 HEAT ROLLER B	
Heat roller	ROLLER HEAT	
Lower cleaning roller	LOWER ROLLER CLEANING	
Fuser joint gear	GEAR FUSER JOINT B	
Main charger grid	GRID ASS'Y	
Main charger cleaning pad	MC CLEANING PAD ASS'Y	
PTC cleaning pad	PTC CLEANING PAD ASS'Y	
Transfer belt	PARTS TC BELT SP	
Waste toner box	DISPOSAL TANK ASS'Y	
Separation pulley	LOWER PULLEY FEED	
Cleaning unit	CLEANING ASS'Y	
Cleaning unit protect cover	COVER CLN PROTECTION	
Front cover filter 1	FILTER FRONT COVER D	
Front cover filter 2	FILTER FRONT COVER E	
Front cover filter 3	FILTER FRONT COVER F	
Developing unit	DEVELOPING ASS'Y (SP)	
Developing rear fan filter	REAR DLP FILTER ASS'Y*1 REAR DLP FILTER B ASS'Y*2	
Drum heater electrode	PARTS,DRUM ELECTRODE ASS'Y	
DP original feed belt	BELT PF	
DP forwarding pulley	PULLEY LF	
DP separation roller	PULLEY SEPARATION	
Ozone filter 1	OZONE FILTER B	
Ozone filter 2	OZONE FILTER C	
Ozone filter 3	OZONE FILTER	
Image formation fan filter	FILTER MC FAN	
Developing front fan filter 1	FRONT FILTER DLP FAN	
Developing front fan filter 2	FRONT FILTER IMAGE FAN	
Parts kit B	PM-650B	
Cleaning felt	FELT,CLEANING	
Heat roller separation claw	SEPARATOR FUSER ASSY	
Forwarding pulley	PULLEY LEADING FEED	
Paper feed pulley	PULLEY FEED	
Transfer roller	ROLLER TRANSFER	
Press roller	ROLLER PRESSURE	
Heat roller gear	GEAR 50 HEAT ROLLER B	
Heat roller	ROLLER HEAT	
Lower cleaning roller	LOWER ROLLER CLEANING	
Fuser joint gear	GEAR FUSER JOINT B	
Main charger grid	GRID ASS'Y	
Main charger cleaning pad	MC CLEANING PAD ASS'Y	
PTC cleaning pad	PTC CLEANING PAD ASS'Y	
Transfer belt	PARTS TC BELT SP	

*1: 120 V specifications only (for the machine produced in before June, 2005).
*2: For the machine produced in July, 2005 and after.

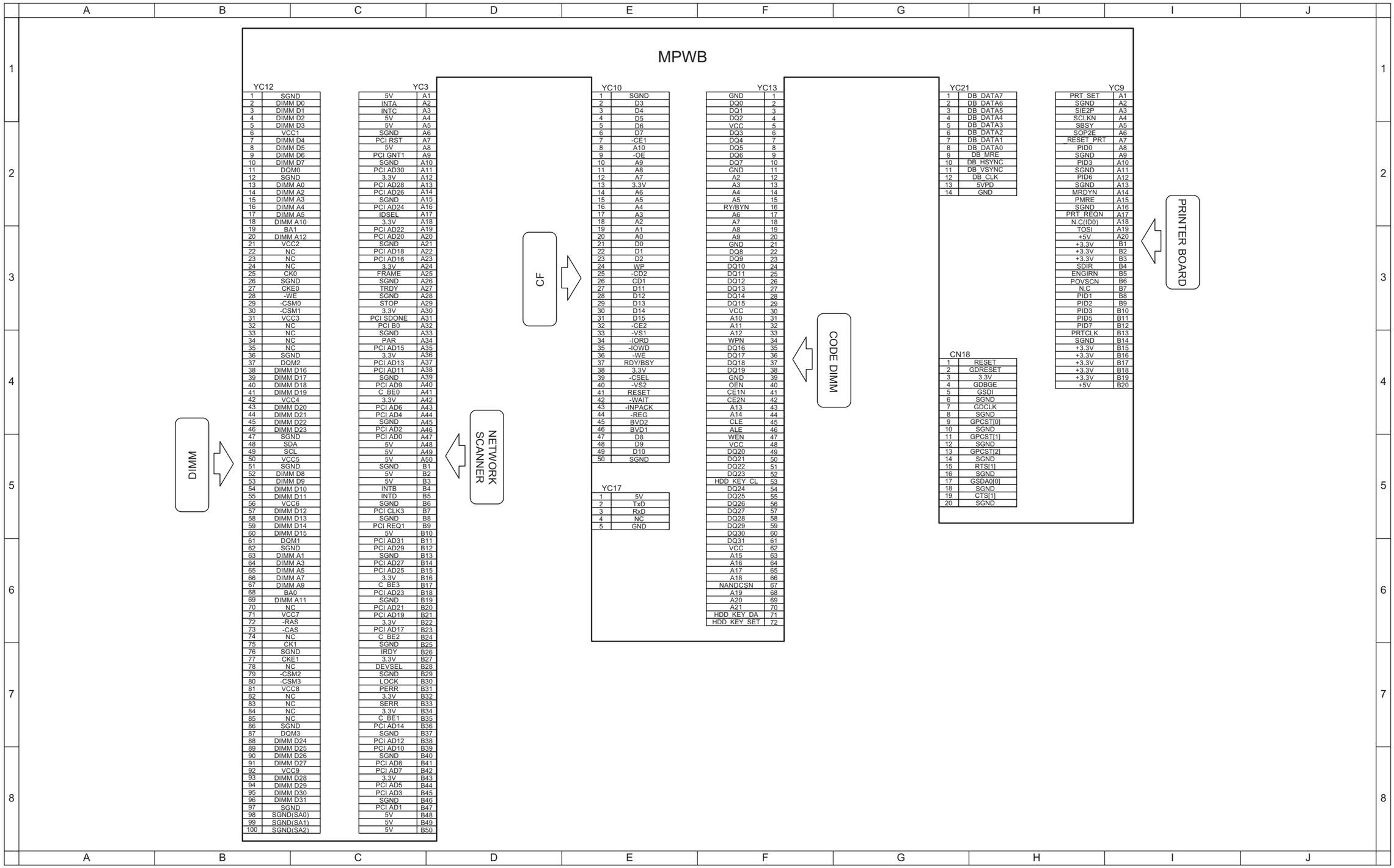
Wiring diagram No.1



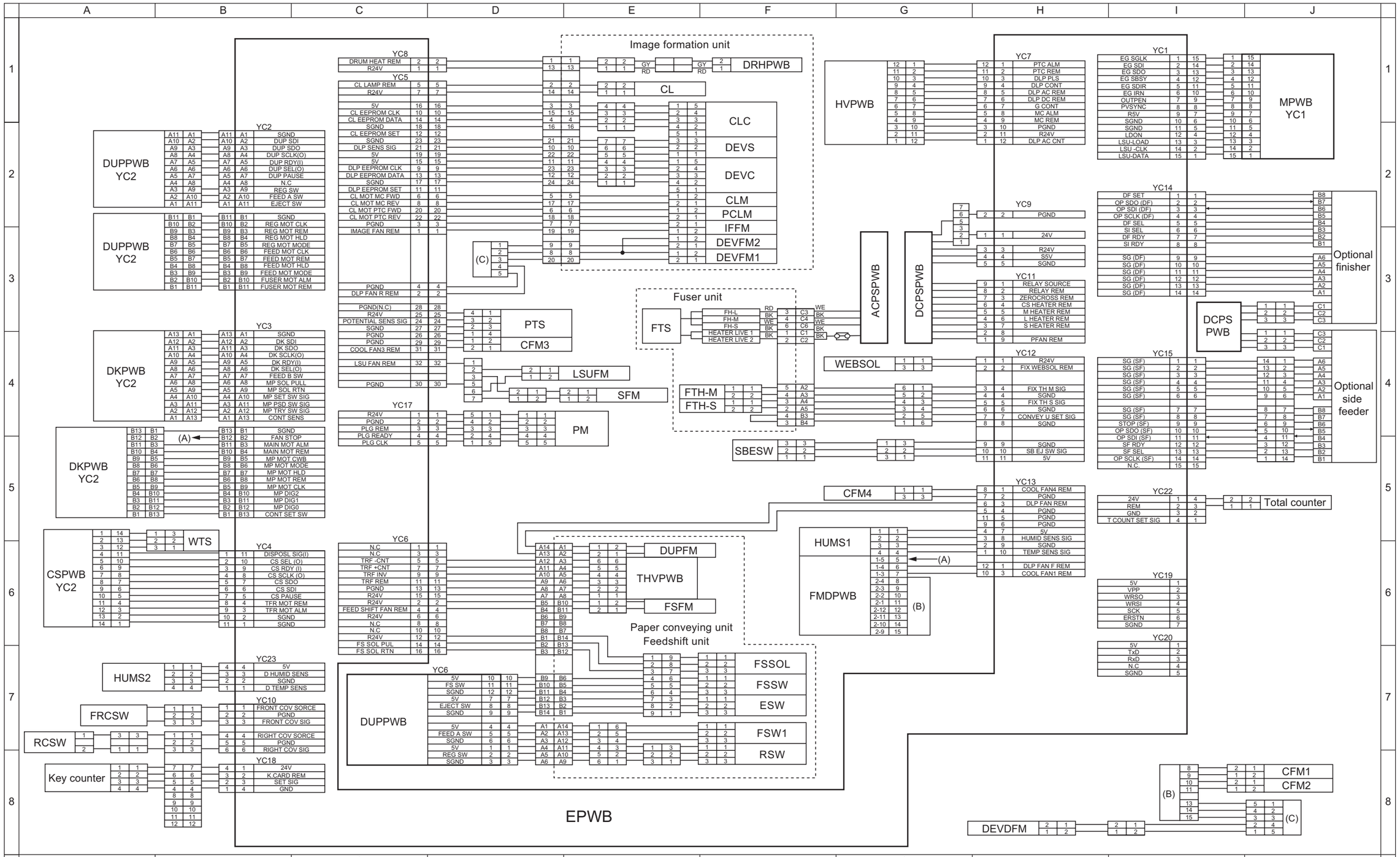
Wiring diagram No.2



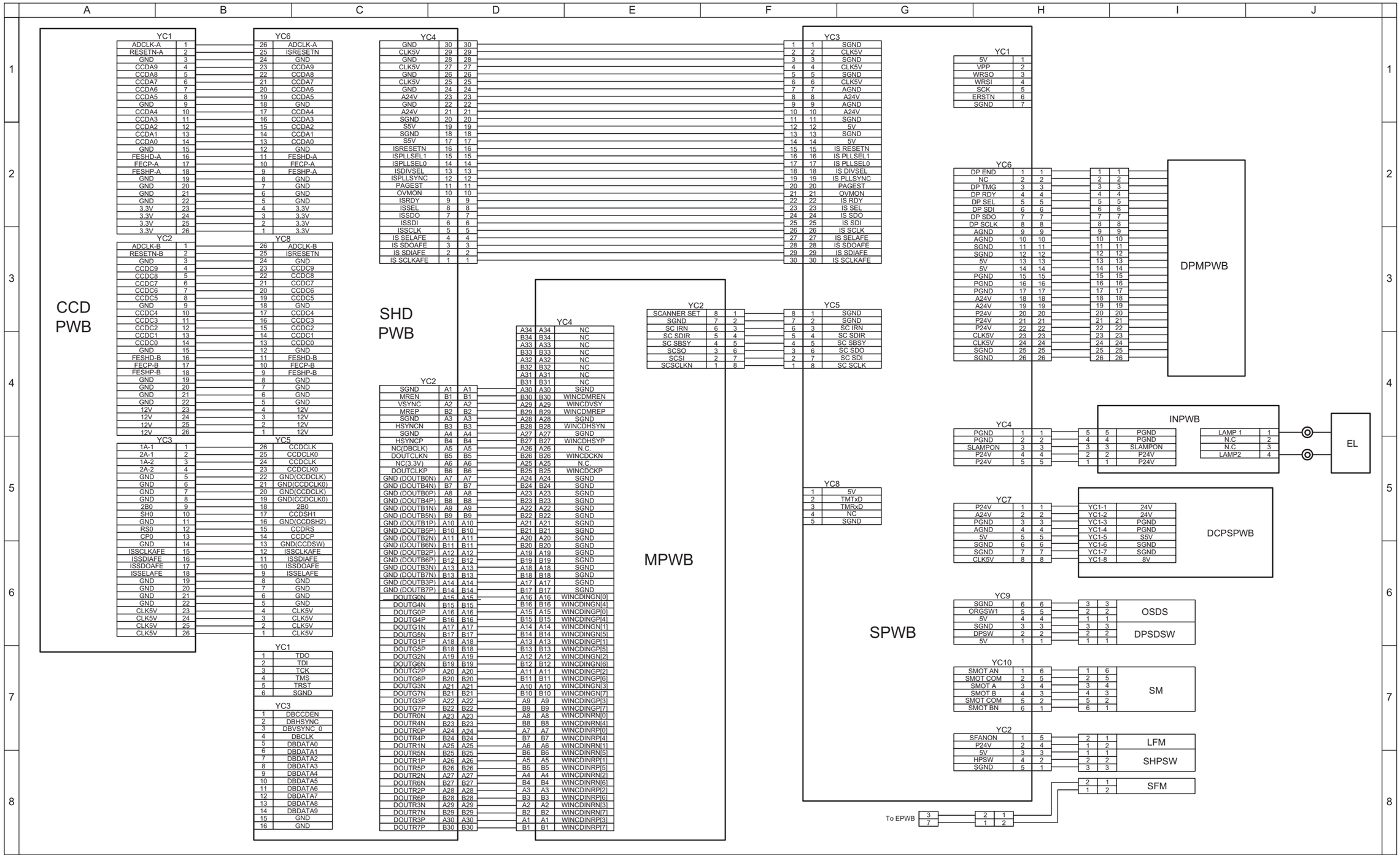
Wiring diagram No.3



Wiring diagram No.4

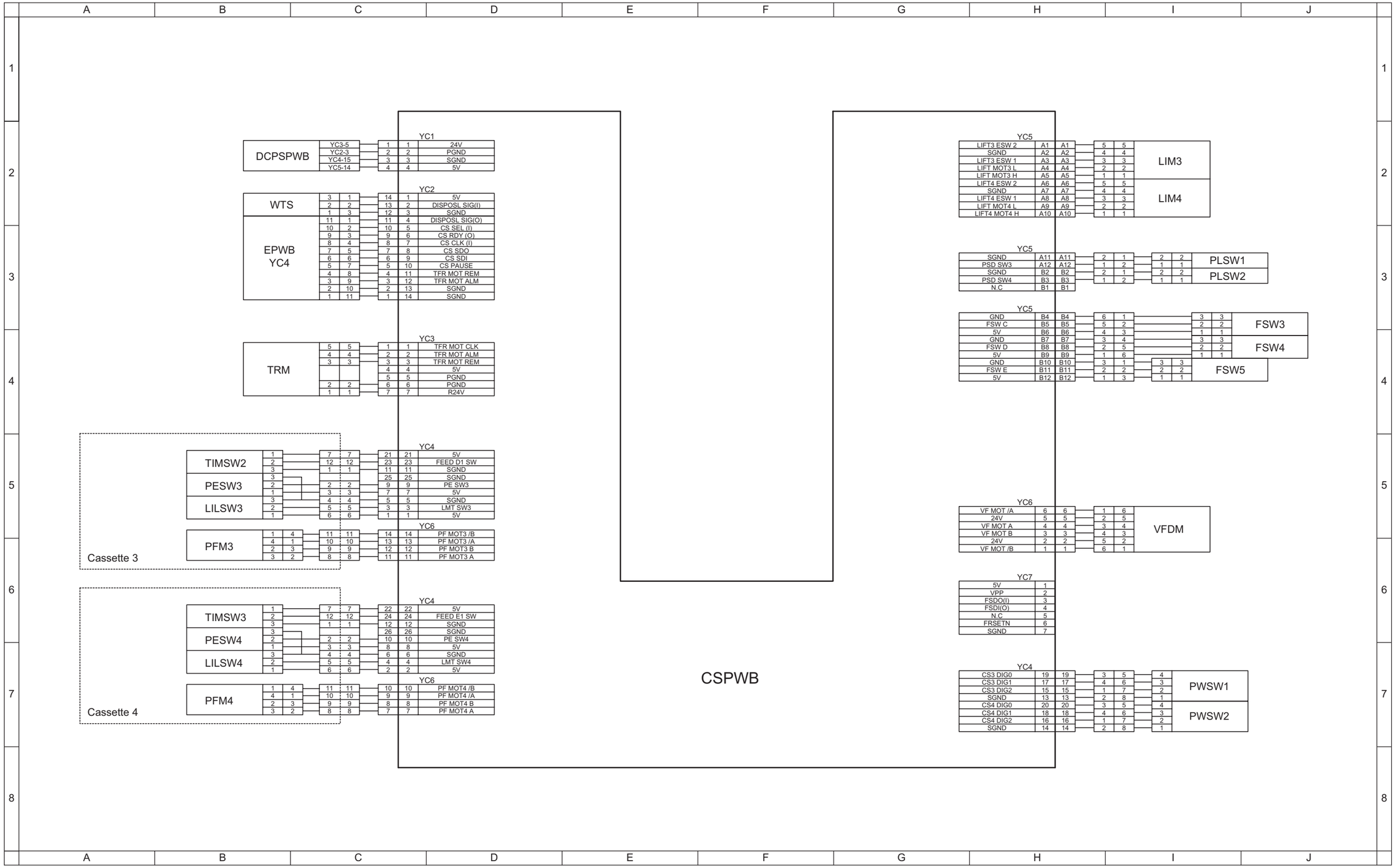


Wiring diagram No.5

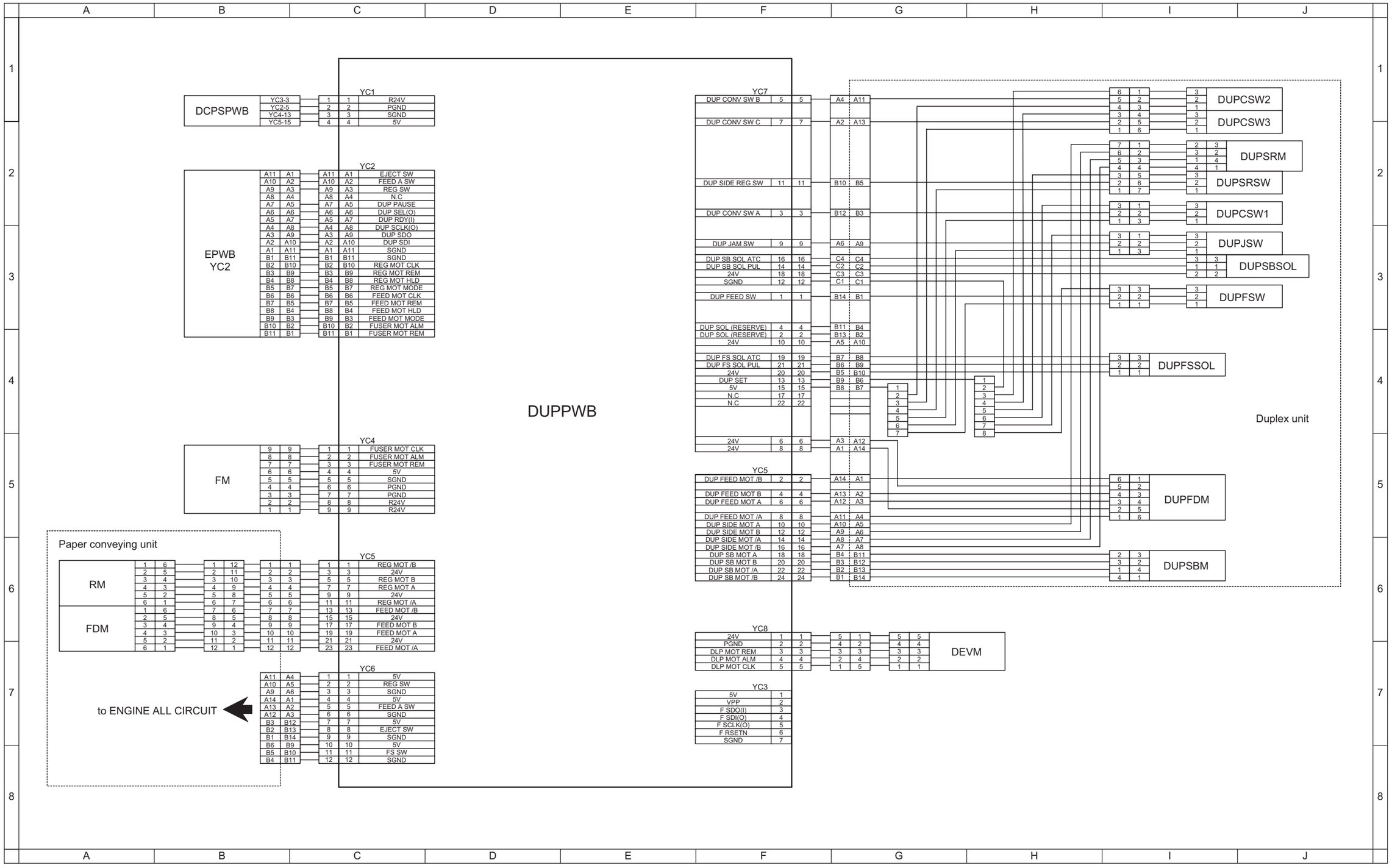


Wiring diagram No.6

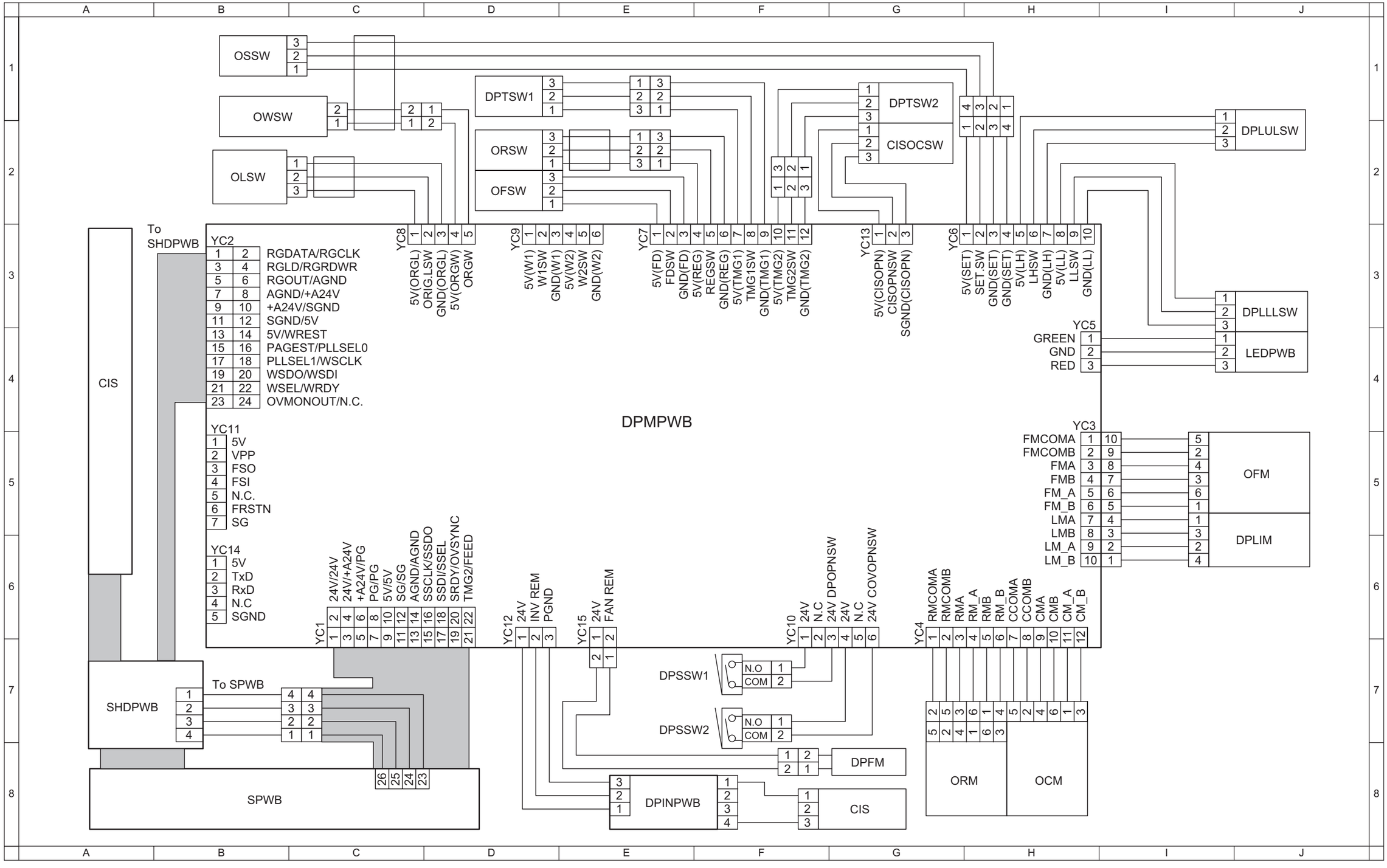
Wiring diagram No.7


DCPSPWB
YC3-5
YC2-3
YC4-15
YC5-14
YC1
1 1 24V
2 2 PGND
3 3 SGND
4 4 5V
WTS
EPWB
YC4
YC2
3 1 14 1 5V
2 2 13 2 DISPOSL SIG(I)
1 3 12 3 SGND
11 1 11 4 DISPOSL SIG(O)
10 2 10 5 CS SEL (I)
9 3 9 6 CS RDY (O)
8 4 8 7 CS CLK (I)
7 5 7 8 CS SDO
6 6 6 9 CS SDI
5 7 5 10 CS PAUSE
4 8 4 11 TFR MOT REM
3 9 3 12 TFR MOT ALM
2 10 2 13 SGND
1 11 1 14 SGND
TRM
YC3
5 5 1 1 TFR MOT CLK
4 4 2 2 TFR MOT ALM
3 3 3 3 TFR MOT REM
4 4 5V
5 5 PGND
2 2 6 6 PGND
1 1 7 7 R24V
Cassette 3
TIMSW2
PESW3
LILSW3
PFM3
YC4
1 7 7 21 21 5V
2 12 12 23 23 FEED D1 SW
3 1 1 11 11 SGND
3 25 25 SGND
2 2 2 9 9 PE SW3
1 3 3 7 7 5V
3 4 4 5 5 SGND
2 5 5 3 3 LMT SW3
1 6 6 1 1 5V
YC6
1 4 11 11 14 14 PF MOT3 /B
4 1 10 10 13 13 PF MOT3 /A
2 3 9 9 12 12 PF MOT3 B
3 2 8 8 11 11 PF MOT3 A
Cassette 4
TIMSW3
PESW4
LILSW4
PFM4
YC4
1 7 7 22 22 5V
2 12 12 24 24 FEED E1 SW
3 1 1 12 12 SGND
3 26 26 SGND
2 2 2 10 10 PE SW4
1 3 3 8 8 5V
3 4 4 6 6 SGND
2 5 5 4 4 LMT SW4
1 6 6 2 2 5V
YC6
1 4 11 11 10 10 PF MOT4 /B
4 1 10 10 9 9 PF MOT4 /A
2 3 9 9 8 8 PF MOT4 B
3 2 8 8 7 7 PF MOT4 A
CSPWB
YC5
LIFT3 ESW 2 A1 A1
SGND A2 A2
LIFT3 ESW 1 A3 A3
LIFT MOT3 L A4 A4
LIFT MOT3 H A5 A5
LIFT4 ESW 2 A6 A6
SGND A7 A7
LIFT4 ESW 1 A8 A8
LIFT MOT4 L A9 A9
LIFT4 MOT4 H A10 A10
5 5 4 4 3 3 2 2 1 1
LIM3
LIM4
YC5
SGND A11 A11
PSD SW3 A12 A12
SGND B2 B2
PSD SW4 B3 B3
N.C B1 B1
2 1 1 2 2 1 1 2 2 2 1 1 2 2 1 1
PLSW1
PLSW2
YC5
GND B4 B4
FSW C B5 B5
5V B6 B6
GND B7 B7
FSW D B8 B8
5V B9 B9
GND B10 B10
FSW E B11 B11
5V B12 B12
6 1 5 2 4 3 3 4 2 5 1 6 3 1 2 2 1 3
3 3 2 2 1 1 3 3 2 2 1 1 3 3 2 2 1 1
FSW3
FSW4
FSW5
YC6
VF MOT /A 6 6
24V 5 5
VF MOT A 4 4
VF MOT B 3 3
24V 2 2
VF MOT /B 1 1
1 6 2 5 3 4 4 3 5 2 6 1
VFDM
YC7
5V 1
VPP 2
FSDO(I) 3
FSDI(O) 4
N.C 5
FRSETN 6
SGND 7
YC4
CS3 DIG0 19 19
CS3 DIG1 17 17
CS3 DIG2 15 15
SGND 13 13
CS4 DIG0 20 20
CS4 DIG1 18 18
CS4 DIG2 16 16
SGND 14 14
3 5 4 4 6 3 1 7 2 2 8 1 3 5 4 4 6 3 1 7 2 2 8 1
PWSW1
PWSW2

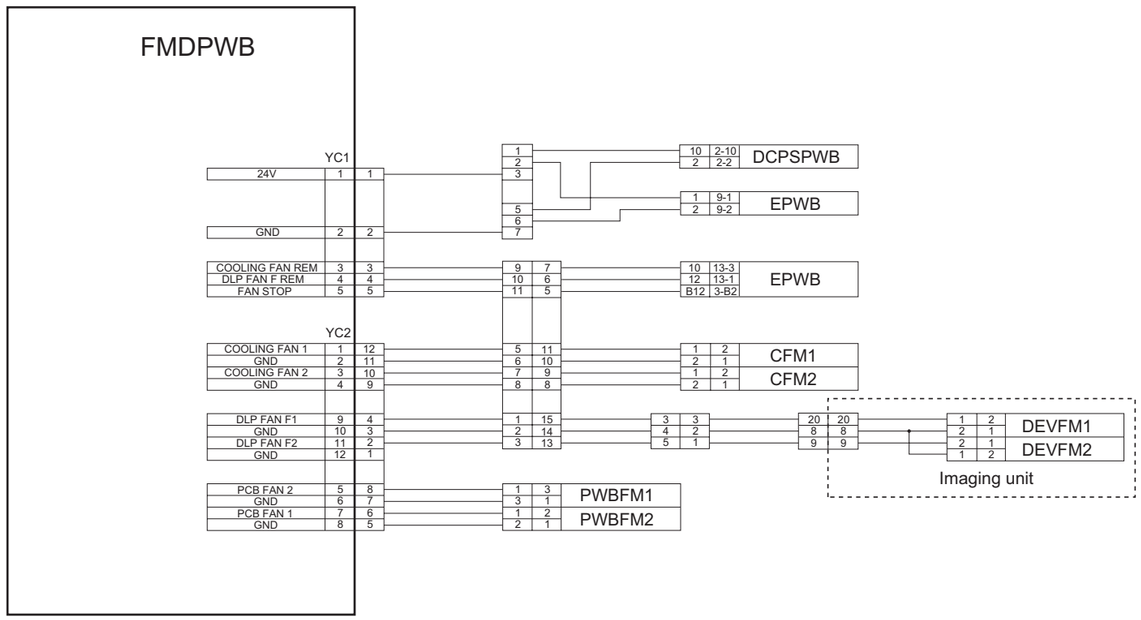
Wiring diagram No.8


DUPPWB
DCPSPWB
YC3-3
YC2-5
YC4-13
YC5-15
YC1
1 1 R24V
2 2 PGND
3 3 SGND
4 4 5V
EPWB
YC2
YC2
A11 A1 EJECT SW
A10 A2 FEED A SW
A9 A3 REG SW
A8 A4 N.C
A7 A5 DUP PAUSE
A6 A6 DUP SEL(O)
A5 A7 DUP RDY(I)
A4 A8 DUP SCLK(O)
A3 A9 DUP SDO
A2 A10 DUP SDI
A1 A11 SGND
B1 B11 SGND
B2 B10 REG MOT CLK
B3 B9 REG MOT REM
B4 B8 REG MOT HLD
B5 B7 REG MOT MODE
B6 B6 FEED MOT CLK
B7 B5 FEED MOT REM
B8 B4 FEED MOT HLD
B9 B3 FEED MOT MODE
B10 B2 FUSER MOT ALM
B11 B1 FUSER MOT REM
FM
YC4
9 9 1 1 FUSER MOT CLK
8 8 2 2 FUSER MOT ALM
7 7 3 3 FUSER MOT REM
6 6 4 4 5V
5 5 5 5 SGND
4 4 6 6 PGND
3 3 7 7 PGND
2 2 8 8 R24V
1 1 9 9 R24V
Paper conveying unit
RM
FDM
YC5
1 6 1 12 1 1 1 1 REG MOT /B
2 5 2 11 2 2 3 3 24V
3 4 3 10 3 3 5 5 REG MOT B
4 3 4 9 4 4 7 7 REG MOT A
5 2 5 8 5 5 9 9 24V
6 1 6 7 6 6 11 11 REG MOT /A
1 6 7 6 7 7 13 13 FEED MOT /B
2 5 8 5 8 8 15 15 24V
3 4 9 4 9 9 17 17 FEED MOT B
4 3 10 3 10 10 19 19 FEED MOT A
5 2 11 2 11 11 21 21 24V
6 1 12 1 12 12 23 23 FEED MOT /A
YC6
A11 A4 1 1 5V
A10 A5 2 2 REG SW
A9 A6 3 3 SGND
A14 A1 4 4 5V
A13 A2 5 5 FEED A SW
A12 A3 6 6 SGND
B3 B12 7 7 5V
B2 B13 8 8 EJECT SW
B1 B14 9 9 SGND
B6 B9 10 10 5V
B5 B10 11 11 FS SW
B4 B11 12 12 SGND
to ENGINE ALL CIRCUIT
YC7
DUP CONV SW B 5 5 A4 A11
DUP CONV SW C 7 7 A2 A13
DUP SIDE REG SW 11 11 B10 B5
DUP CONV SW A 3 3 B12 B3
DUP JAM SW 9 9 A6 A9
DUP SB SOL ATC 16 16 C4 C4
DUP SB SOL PUL 14 14 C2 C2
24V 18 18 C3 C3
SGND 12 12 C1 C1
DUP FEED SW 1 1 B14 B1
DUP SOL (RESERVE) 4 4 B11 B4
DUP SOL (RESERVE) 2 2 B13 B2
24V 10 10 A5 A10
DUP FS SOL ATC 19 19 B7 B8
DUP FS SOL PUL 21 21 B6 B9
24V 20 20 B5 B10
DUP SET 13 13 B9 B6
5V 15 15 B8 B7
N.C 17 17
N.C 22 22
24V 6 6 A3 A12
24V 8 8 A1 A14
YC5
DUP FEED MOT /B 2 2 A14 A1
DUP FEED MOT B 4 4 A13 A2
DUP FEED MOT A 6 6 A12 A3
DUP FEED MOT /A 8 8 A11 A4
DUP SIDE MOT A 10 10 A10 A5
DUP SIDE MOT B 12 12 A9 A6
DUP SIDE MOT /A 14 14 A8 A7
DUP SIDE MOT /B 16 16 A7 A8
DUP SB MOT A 18 18 B4 B11
DUP SB MOT B 20 20 B3 B12
DUP SB MOT /A 22 22 B2 B13
DUP SB MOT /B 24 24 B1 B14
YC8
24V 1 1 5 1 5 5
PGND 2 2 4 2 4 4
DLP MOT REM 3 3 3 3 3 3
DLP MOT ALM 4 4 2 4 2 2
DLP MOT CLK 5 5 1 5 1 1
DEVM
YC3
5V 1
VPP 2
F SDO(I) 3
F SDI(O) 4
F SCLK(O) 5
F RSETN 6
SGND 7
Duplex unit
DUPCSW2
DUPCSW3
DUPSRM
DUPSRSW
DUPCSW1
DUPJSW
DUPSBSOL
DUPFSW
DUPFSSOL
DUPFDM
DUPSBM

Wiring diagram No.9



Wiring diagram No.10



UPDATING STATUS

DATE	UPDATED PAGES	PAGES	CODE
02/2006	1ST EDITION	454	Y104350-7